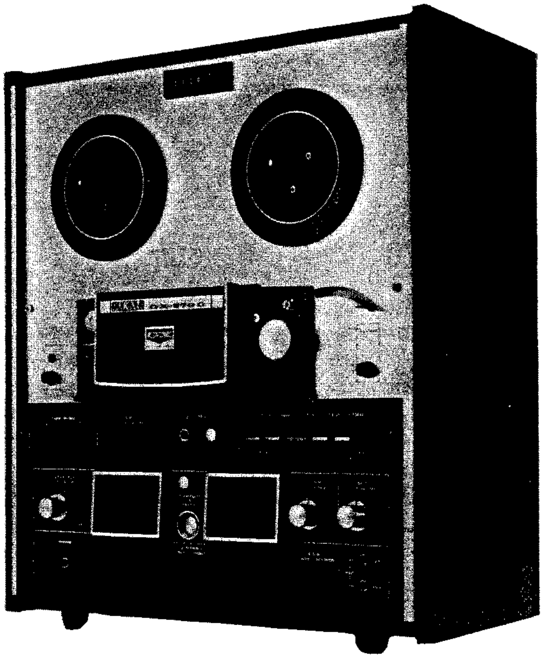

STEREO TAPE DECK

MODEL GX-370D

SECTION 1 SERVICE MANUAL 2
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SECTION 1

SERVICE MANUAL

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I. SPECIFICATIONS

An asterisk next to a figure indicates the minimum guaranteed performance.

TRACK SYSTEM		4 track 2-channel stereo/monaural system
REEL CAPACITY		Up to 7" reel
TAPE SPEED		7-1/2 and 3-3/4 ips ±0.5%
WOW AND FLUTTER		Less than 0.07% (*0.1%) RMS at 7-1/2 ips Less than 0.1% (*0.15%) RMS at 3-3/4 ips
FREQUENCY RESPONSE		30 to 26,000 Hz (*30 to 24,000 Hz) ±3 dB at 7-1/2 ips (AKAI S.R.T. Tape) 30 to 24,000 Hz (*30 to 22,000 Hz) ±3 dB at 7-1/2 ips (Regular Tape) 30 to 22,000 Hz (*30 to 19,000 Hz) ±3 dB at 3-3/4 ips (AKAI S.R.T. Tape) 30 to 19,000 Hz (*30 to 18,000 Hz) ±3 dB at 3-3/4 ips (Regular Tape)
SIGNAL TO NOISE RATIO		Better than 50 dB (*48 dB)
DISTORTION		Less than 1.5% (*2%) at 7-1/2 ips 1,000 Hz "0" VU recording Less than 3% at 3-3/4 ips 1,000 Hz "0" VU recording
CROSS TALK		Better than 70 dB (Monaural) Better than 45 dB (Stereo)
ERASE RATIO		Better than 70 dB
BIAS FREQUENCY		103 kHz ±5 kHz
BIAS LEAK		Less than -20 VU
HIGH FREQUENCY DEVIATION (between left and right channel)		Within 3 dB, using a 8,000 Hz 3-3/4 ips recorded tape at 7-1/2 ips
INPUTS	Mic input	0.7 mV Impedance: 10 kΩ
	Line input	70 mV Impedance: 150 kΩ
	Din input	7 mV (low) and 70 mV (high)
OUTPUTS	Line output	1.228V (4 ±1.5 dB) Impedance: 100Ω, using a 250 Hz "0" VU recorded tape
	Din output	0.4V
RECORDING CAPACITY		60 min. stereo recording, using a 1,200 ft. tape at 7-1/2 ips
FAST FORWARD & REWIND TIME		68/83 sec., using a 1,200 ft. tape at 60/50 Hz
MOTORS	Capstan Motor	2-speed servo control outer rotor motor Type: SCM2-24 Revolutions: 520 r.p.m. at 7-1/2 ips 260 r.p.m. at 3-3/4 ips
	Reel Motor	Two 6-pole eddy current outer rotor motors Type: 24X0-II Revolutions: 930 r.p.m. at 50 Hz 1120 r.p.m. at 60 Hz
HEADS	Combination Recording & Erase Head	Type: RE4-1 Gap: 4μ ±15%, 0.2x2 mm Impedance: 1,800Ω at 100 kHz 210Ω ±15% at 100 kHz
	Playback Head	Type: P4-200 Gap: 1.75μ ±15% Impedance: 3 ±1 kΩ at 1 kHz
TRANSISTORS		2 . . . 2SA564(R) 8 . . . 2SC458LG(B)(C) 4 . . . 2SC871(F) 6 . . . 2SC968(3) 1 . . . 2SC1013 3 . . . TSC9000-1(B)(C) 4 . . . 2SC454(C) 16 . . . 2SC711(D)(E) 17 . . . 2SC945(Q)(R)(S) 2 . . . 2SC971(2)(3)(red) 2 . . . 2SD234(Y)
DIODES		27 . . . 1N34A 3 . . . 10D4 1 . . . 10DC-1(red) 17 . . . 10D1 2 . . . 10DC-1(black)
IC		2 . . . LD-3141
THERMISTORS		1 . . . 1N359A 1 . . . RD9A
VARISTOR		1 . . . TH201
POWER SUPPLY		100 to 240V AC, 50/60 Hz
POWER CONSUMPTION		130 W
INSULATION RESISTANCE		More than 50 MΩ
INSULATION DURABILITY		1,000V AC for more than 1 min. duration
DIMENSIONS		445 (W) x 503 (H) x 252 (D) mm (18.2 x 20.5 x 10.3")
WEIGHT		25.5 kg (56 lbs.)

NOTE: Specifications subject to change without notice.

II. MEASURING METHOD

1. TAPE SPEED DEVIATION

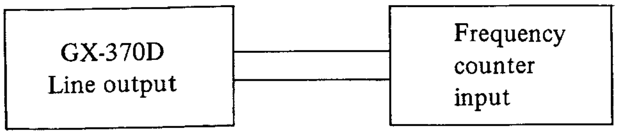

GX-370D
Line output
Frequency
counter
input

Fig. 1

As shown in Fig. 1, connect a Frequency Counter to the Line Output of Model GX-370D. Playback a 1,000 Hz pre-recorded test tape. Take a Frequency Counter reading at the beginning, middle, and end of tape winding during playback. The maximum value of these respective readings will represent tape speed deviation.

2. WOW AND FLUTTER

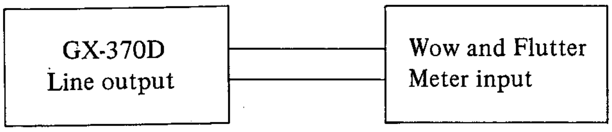

GX-370D
Line output
Wow and Flutter
Meter input

Fig. 2

Method A
As shown in Fig. 2, connect the Line Output of Model GX-370D to the Input of a Wow and Flutter Meter. Playback a 3,000 Hz pre-recorded test tape and take a Wow and Flutter Meter reading at the beginning, middle, and end of tape winding. The maximum value of these respective readings will represent the Wow and Flutter.

Method B
Supply a 3,000 Hz sine wave signal from an Audio Frequency Oscillator and make a recording on a blank tape at the beginning, middle, and end of tape winding. Rewind and playback the resultant signal. Measure Wow and Flutter with a Wow and Flutter Meter. (The Wow and Flutter value of Method B will be close to twice that of Method A.)

3. FREQUENCY RESPONSE

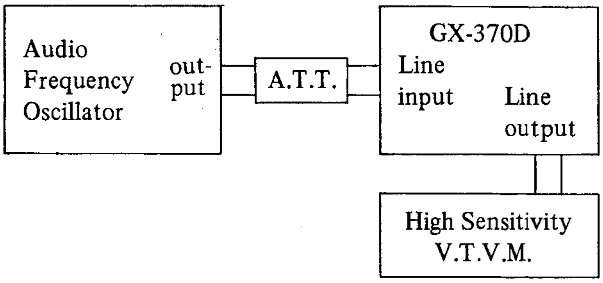

Audio
Frequency
Oscillator
output
A.T.T.
GX-370D
Line
input
Line
output
High Sensitivity
V.T.V.M.

Fig. 3

For measuring Frequency Response, connect instruments as shown in Fig. 3 and proceed as follows:

1) Supply a 1,000 Hz sine wave signal to the Line Input of Model GX-370D from an Audio Frequency Oscillator through an Attenuator.
2) Set recorder to recording mode and turn recording level control volume and line output level control volume to maximum. Adjust attenuator to obtain a +4 dB V.T.V.M. reading.
3) Under conditions described in 2) above, readjust attenuator so that the Line Output is -16 dB, and record 30 to 24,000 Hz spot frequencies.
4) Rewind tape and playback from the beginning. Take V.T.V.M. spot frequency readings and plot values on a graph.

NOTE: When measuring Frequency Response, new tape should be used.

4. SIGNAL TO NOISE RATIO

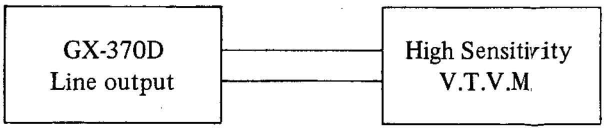

GX-370D
Line output
High Sensitivity
V.T.V.M.

Fig. 4

As shown in Fig. 4, connect a High Sensitivity V.T.V.M. to the Line output of Model GX-370D. Playback a 250 Hz "0" VU pre-recorded test tape and measure the output. Then remove the tape and measure the noise level under the same condition. Convert each of the measured values into decibels.

5. TOTAL HARMONIC DISTORTION

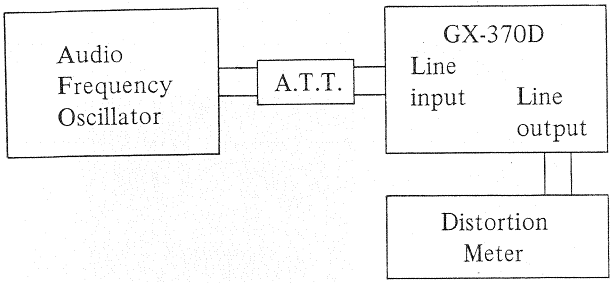


Fig. 5

Connect the measuring instruments as shown in Fig. 5 and record a 1,000 Hz sine wave signal at "0" VU. Playback the resultant signal and measure the overall distortion factor. Measure the noise level of the tape recorder without the tape. Connect the Audio Frequency Oscillator directly to the distortion meter for measurement of the distortion factor of the oscillator. The required distortion factor can be obtained from the results of the above measurement by the following formula:

$$d_0 = d - d_1 - d_2$$

where, d_0 – Required distortion factor
d – Overall distortion factor
d_1 – Noise level
d_2 – Distortion factor of the oscillator

NOTE: When measuring the distortion factor, new tape should be used.

6. CROSS TALK (Cross talk between the tracks)

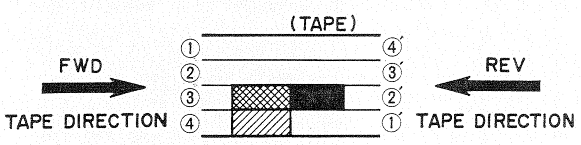


Fig. 6

As shown in Fig. 6, first record a 1,000 Hz sine wave signal on Track No. 3 at +3 VU level. Next, record under a non-input condition. Then, playback the tape on Tracks No. 3 and 1 (reversed condition of tape) through the B.P.F. (band pass filter sensitivity... 1:1) and obtain a ratio between the two from the following formula:

$$C = 20 \log \frac{E_0}{E_2 - E_1} \text{ (dB)}$$

where, C – Desired cross talk ratio (dB)
E_0 – 1,000 Hz signal output level ■
E_2 – 1,000 Hz cross talk level ▨
E_1 – Non-input signal recorded level ▩

Fig. 7

7. ERASE RATIO

As shown in Fig. 4, connect a High Sensitivity V.T.V.M. to the Line Output of Model GX-370D. Playback a virgin tape and take a V.T.V.M. reading of the output level. Next, record a 1,000 Hz sine wave signal at +3 dB, then playback this recorded signal and take a V.T.V.M. reading of the output level. Next, using this pre-recorded tape, record under a non-input condition and take a reading of the noise output level of the erased signal and obtain a ratio between the two from the following formula:

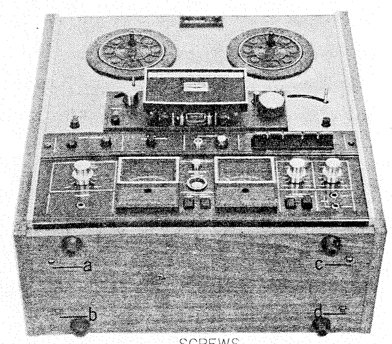
$$E_r = 20 \log \frac{E_0}{E_2 - E_1} \text{ (dB)}$$

where, E_r – Desired erase ratio (dB)
E_0 – 1,000 Hz signal output level
E_2 – Non-input signal recorded level
E_1 – Virgin tape noise output level

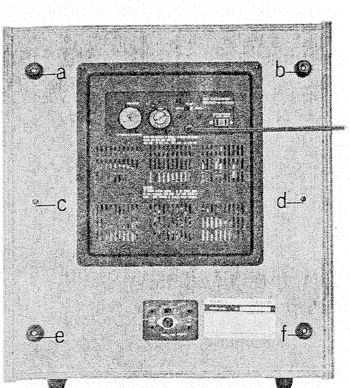
III. DISMANTLING OF UNIT

In case of trouble, etc. necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.

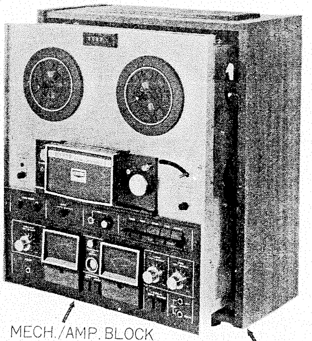
1


a
b
c
d
SCREWS

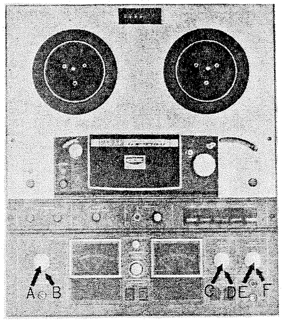
2


a
b
c
d
e
f
SCREWS

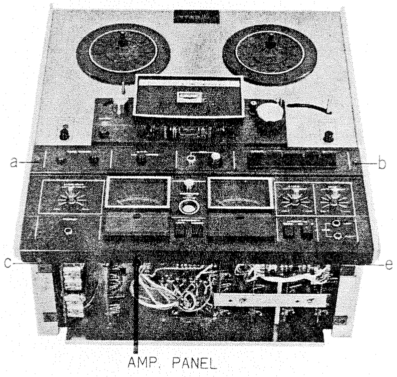
3


MECH./AMP. BLOCK
CASE BLOCK

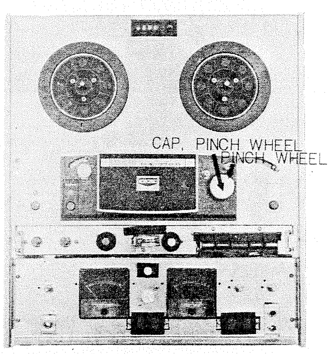
4


A
B
C
D
E
F
CONTROL KNOBS

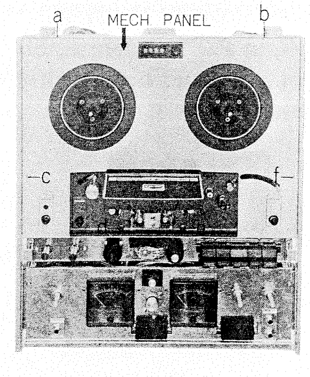
5


a
b
c
e
AMP. PANEL

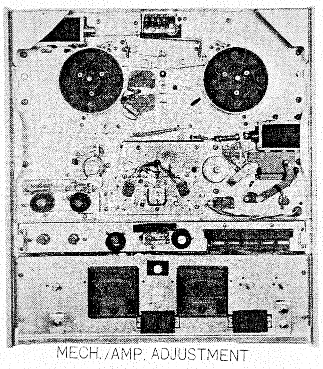
6


CAP. PINCH WHEEL
PINCH WHEEL

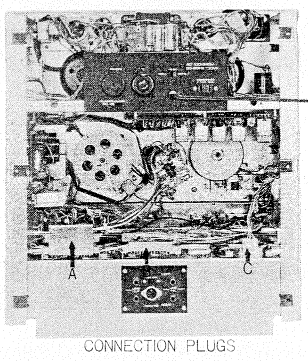
7


a
MECH PANEL
b
c
f

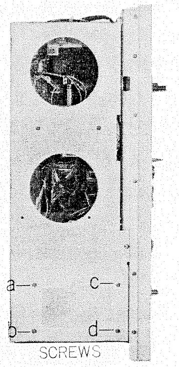
8


MECH./AMP. ADJUSTMENT

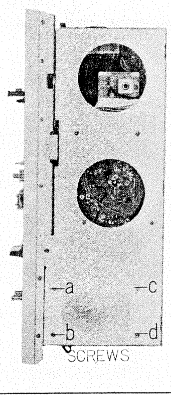
9


A
C
CONNECTION PLUGS

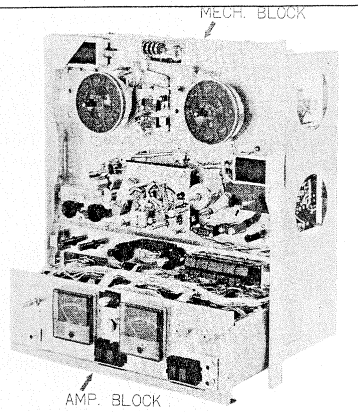
10


a
c
b
d
SCREWS

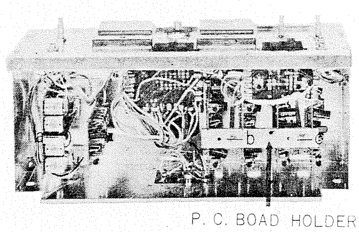
11


a
c
b
d
SCREWS

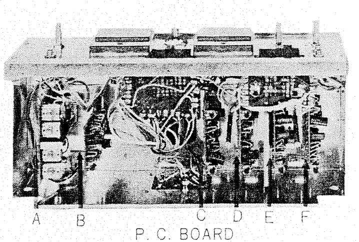
12


MECH. BLOCK
AMP. BLOCK

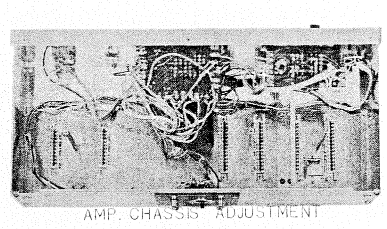
13


b
P. C. BOAD HOLDER

14


A
B
C
D
E
F
P. C. BOARD

15


AMP. CHASSIS ADJUSTMENT

IV. MECHANISM ADJUSTMENTS

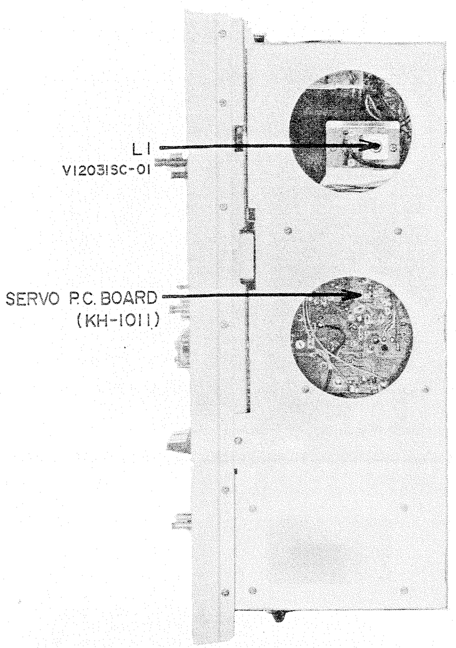


Fig. 8

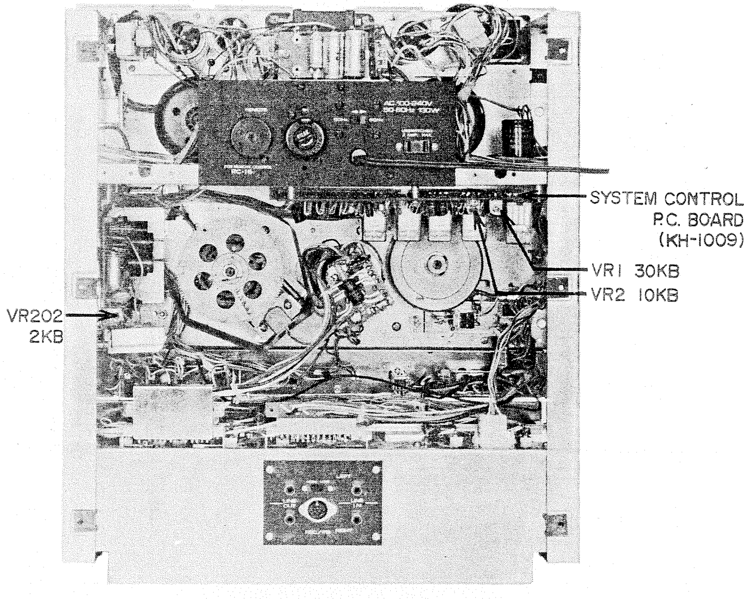


Fig. 9

1. TAPE SPEED ADJUSTMENT (SERVO MOTOR CIRCUIT ADJUSTMENT)

1) Connect a Frequency Counter to the Line Output.
2) Set the Tape Speed Selector to 3-3/4 ips and playback a 1,000 Hz pre-recorded tape.
3) Adjust the core of Coil L1 (V12031SC-01) shown in Fig. 8 to obtain a Frequency Counter indication of 500 Hz ±1%.
4) When the 3-3/4 ips tape speed adjustment is completed, set the Tape Speed Selector to 7-1/2 ips and adjust Servo P.C. Board (KH-1011) semi-fixed resistor VR-202 (2k B) shown in Fig. 9 to obtain a Frequency Counter indication of 1,000 Hz +1/-0.5%.

NOTE: When making tape speed adjustment, it is necessary to make the low speed (3-3/4 ips) adjustment first.

2. DIRECT FUNCTION TIME CONSTANT ADJUSTMENT (See Fig. 9)

1) FWD ↔ REV Time Constant
   Adjust System Control P.C. Board (KH-1009) semi-fixed resistor VR-1 (30k B) so that the time constant to and from FWD and REV mode is about 3 seconds.
2) F·FWD or RWD to FWD or REV Time Constant
   Adjust System Control P.C. Board (KH-1009) semi-fixed resistor VR-2 (10k B) so that the time constant from F·FWD or RWD to FWD or REV mode is about 1.5 seconds.

NOTE: In making the adjustments outlined in Items (1) and (2) above, when the machine is switched from the various modes to FWD or REV, it is important that proper capstan motor revolutions be attained by the time the pinch wheel contacts the capstan.

3. BRAKE TENSION ADJUSTMENT

Use a 60 mm diameter tape wound on a 5" reel and measure the brake tension with a tension gauge. (See Fig. 10) Ideal tape tension is 350 grams.

Brake tension adjustment can be made as follows:

1) Adjust position of suspended springs (d) (d').
2) Loosen screws (a) (b) as well as (a') (b') and adjust the vertical (upper/lower) position of spring suspension metal (c) (c').
3) Loosen screws (e) (f) as well as (e') (f') and adjust the horizontal (left/right) position of brake band suspension metal (g) (g').

Adjust as described above until proper brake tension is attained. (Refer to Fig. 11)

NOTE: In making brake tension adjustment, when the machine is set to other than stop mode, confirm that the brake band definitely does not touch the cloth tape on the brake drum.

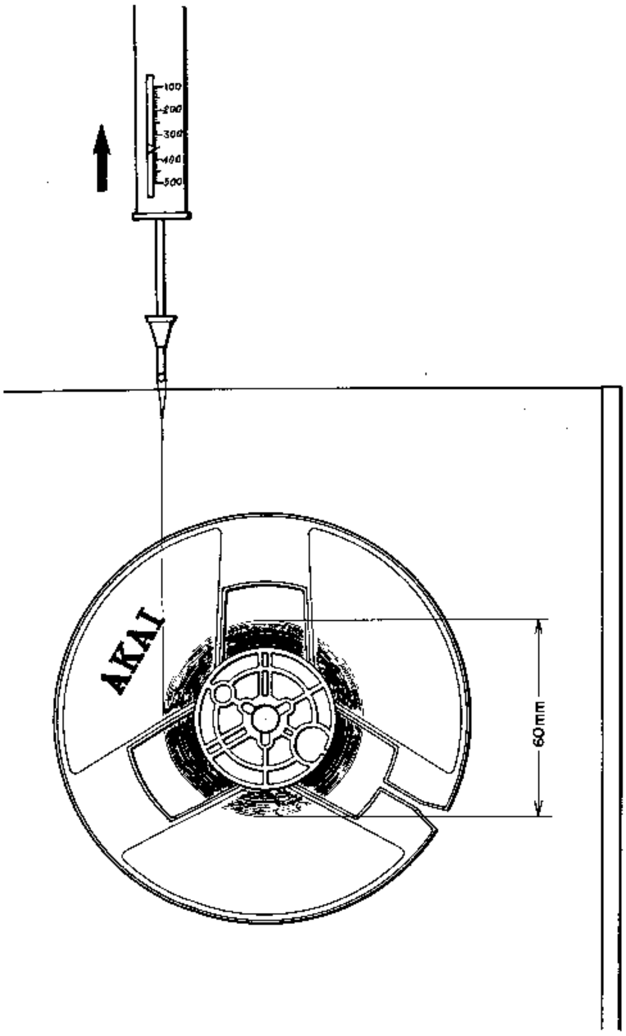


Fig. 10

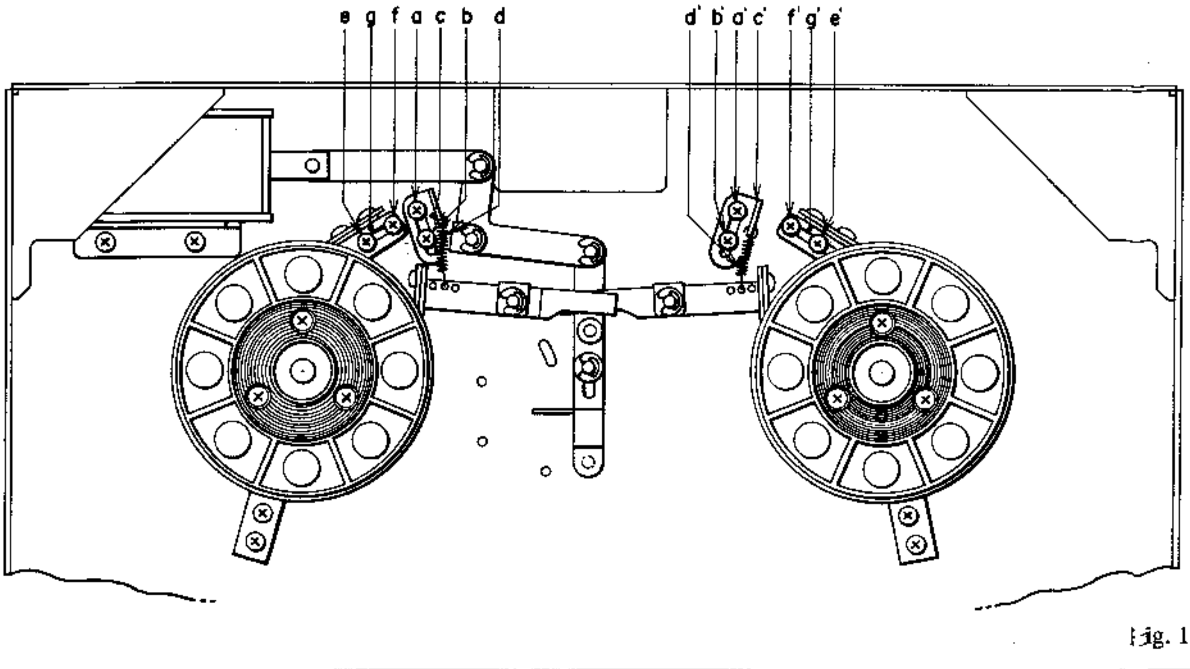


Fig. 11

4. REEL HEIGHT ADJUSTMENT

Loosen the reel table height adjustment screws shown in Fig. 12 and adjust by moving the reel table in the direction of arrow and positioning so that the tape winds in the center of the reel.

5. PINCH WHEEL PRESSURE MEASUREMENT AND ADJUSTMENT

Use a tension gauge and measure the pinch wheel pressure as shown in Fig. 13. Read the value on the tension gauge as soon as the pinch wheel separates from the tape and tape travel stops. Ideal pinch wheel pressure is 1.5 kg. Pinch wheel pressure can be increased or decreased by adjusting screws (a) (b) shown in Fig. 13.

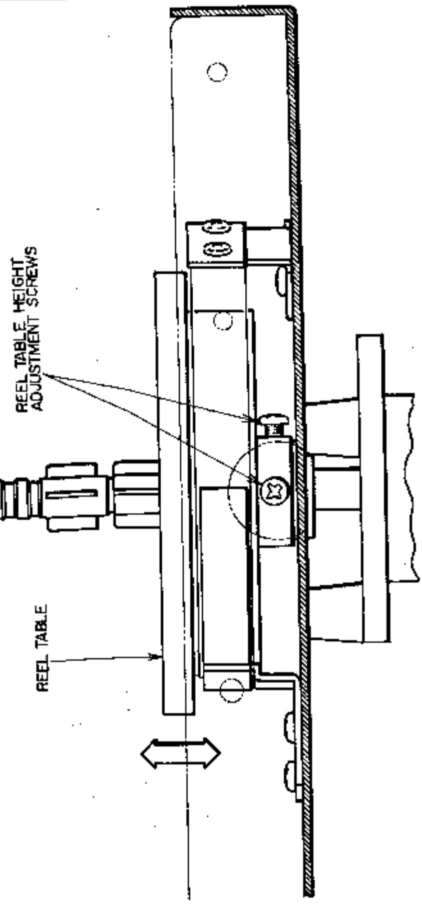

REEL TABLE HEIGHT ADJUSTMENT SCREWS
REEL TABLE

Fig. 12

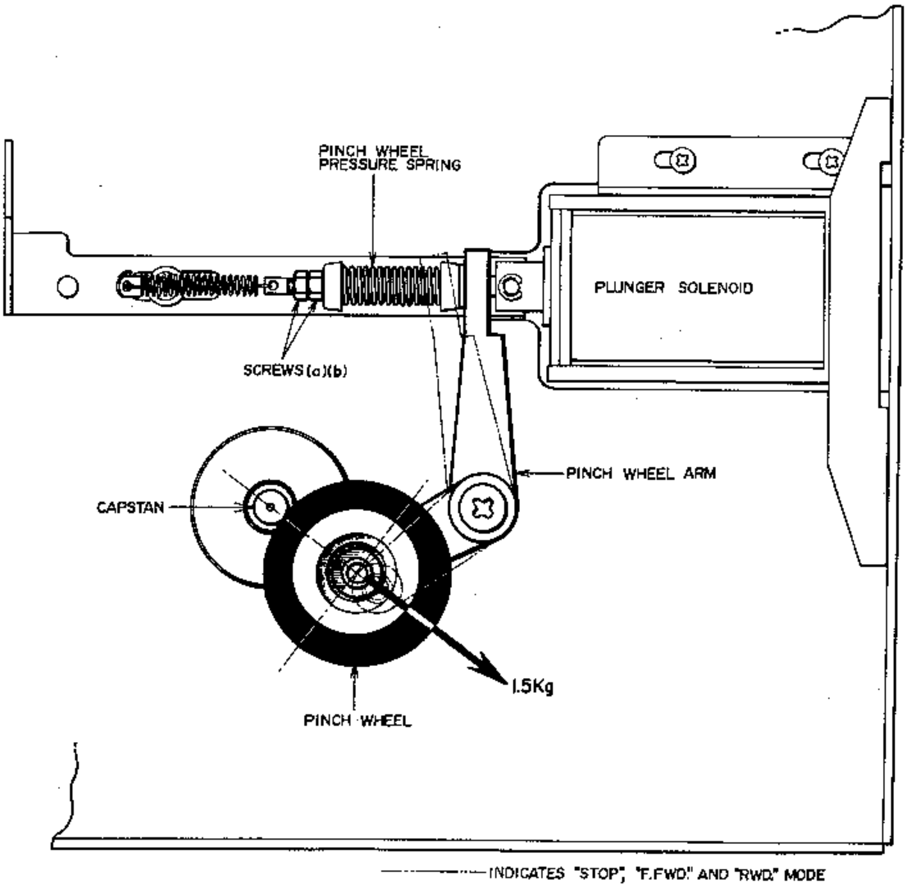

PINCH WHEEL PRESSURE SPRING
PLUNGER SOLENOID
SCREWS (a)(b)
PINCH WHEEL ARM
CAPSTAN
1.5Kg
PINCH WHEEL
INDICATES "STOP", "F.FWD" AND "RWD" MODE

Fig. 13

V. HEAD ADJUSTMENTS

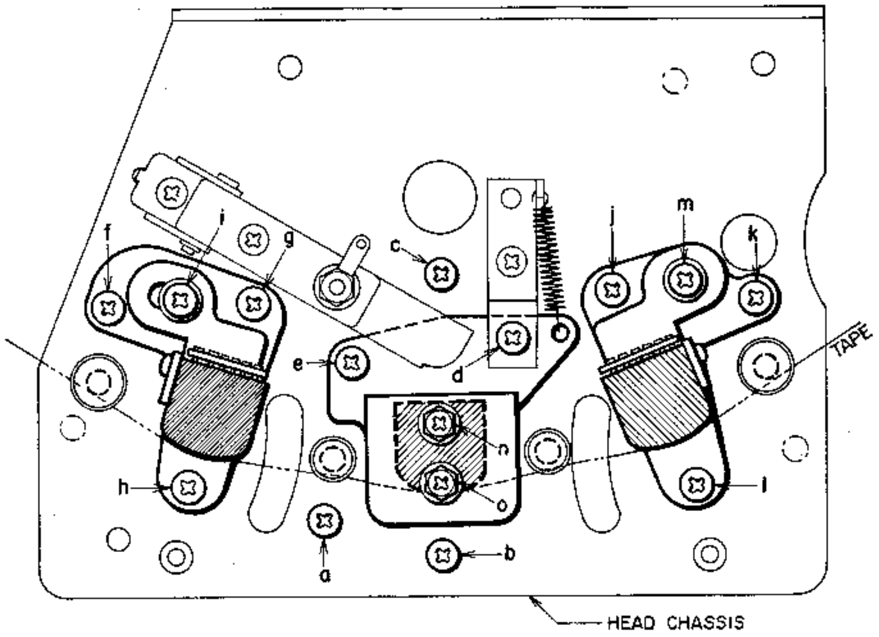


Fig. 14

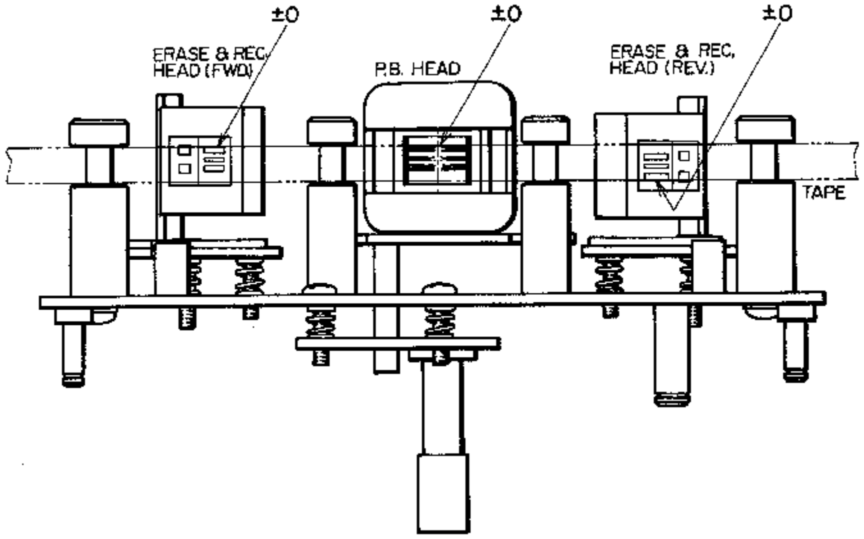


Fig. 15

1. HEAD HEIGHT ADJUSTMENT (See Figs. 14 & 15)

1) Playback Head
   a) For FWD playback mode head height adjustment, during FWD playback, turn head height control screw (d) to left and right until the upper edge of the tape as it passes the head is aligned with the upper edge of channel 1 head core.
   b) For REV playback mode head height adjustment, during REV playback, turn head height control screw (e) to left and right until the lower edge of the tape as it passes the head is aligned with the lower edge of channel 1 head core.

2) Recording and Erase Heads
   a) For FWD recording and erase head height adjustment, at FWD playback mode, adjust head height control screws (f) (g) and (h) by turning to left and right until the upper edge of the tape as it passes the head is aligned with the upper edge of channel 1 recording head core.
   b) For REV recording and erase head height adjustment, at REV playback mode, adjust head height control screws (j) (k) and (l) by turning to left and right until the lower edge of the tape is aligned with the lower edge of channel 1 recording head core.

3) When making the various head height adjustments, confirm that the tape and head core surface is at a right angle with the head chassis during tape travel.

2. HEAD AZIMUTH ALIGNMENT ADJUSTMENT (See Figs. 14 & 15)

1) Playback Head
   a) Connect a High Sensitivity V.T.V.M. to the line output and playback a test tape (Ampex Alignment Tape, 8,000 Hz at 3-3/4 ips) at 7-1/2 ips.
   b) At FWD playback mode, turn adjustment screws (a) and (b) to left and right until the line output level of both channels is maximum.
   c) When Item (b) adjustment is completed, loosen screws (n) and (o) and move the head gap side of the playback head to the left and right. When the tension increases on the supply reel side and the line output level of both channels do not fluctuate, fix screws (n) and (o) to maintain this condition.
   d) At REV playback mode, make the same adjustment as outlined above to attain maximum line output of both channels.

2) Recording and Erase Heads
   a) Connect an Audio Frequency Oscillator to the line input and connect a High Sensitivity V.T.V.M. to the line output and load a blank tape.
   b) Set the Monitor Switch to TAPE position and record a 16,000 Hz signal at -10 dB recording level.
   c) At FWD recording mode, adjust Azimuth Alignment screw (f) so that the line output level of both channels is maximum and does not fluctuate.
   d) After completing Item (c) adjustment, loosen screw (i) and move the head gap side of the recording head to left and right. When the tension increases on the supply reel side and the line output level of both channels do not fluctuate, fix screw (i) to maintain this condition.
   e) At REV recording mode, make the same adjustment as outlined above by adjusting screws (k) and (m) to attain maximum line output of both channels without fluctuation.

3. To obtain the best results make adjustments outlined in Paragraphs 1 and 2 above two or three times. Also new blank tape should be used.

VI. AMPLIFIER ADJUSTMENTS

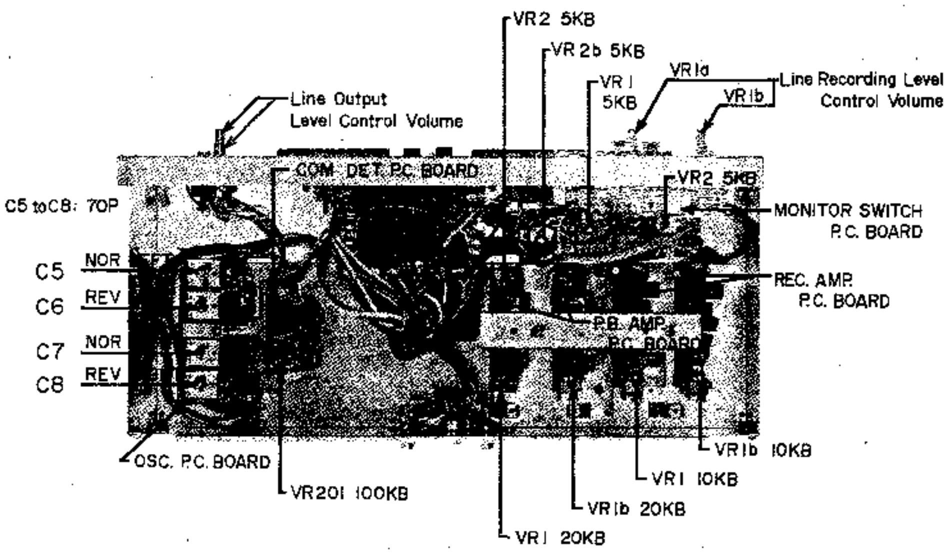

VR2 5KB
VR 2b 5KB
VR 1 5KB
VR 1a
VR 1b
Line Recording Level Control Volume
Line Output Level Control Volume
COM. DET. P.C. BOARD
VR2 5KB
MONITOR SWITCH P.C. BOARD
C5 to C8: 70P
C5 NOR
C6 REV
C7 NOR
C8 REV
REC. AMP. P.C. BOARD
P.B. AMP. P.C. BOARD
OSC. P.C. BOARD
VR201 100KB
VR1b 10KB
VR1 10KB
VR1b 20KB
VR1 20KB

Fig. 16

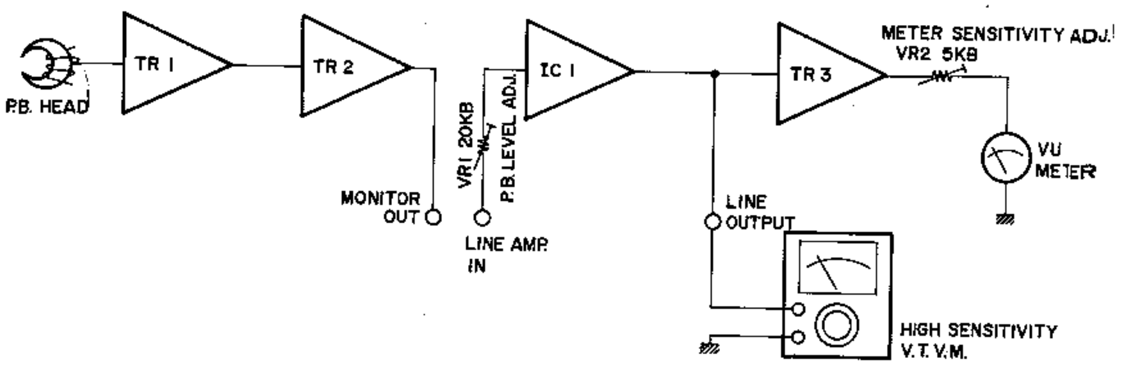

P.B. HEAD
TR 1
TR 2
MONITOR OUT
VR1 20KB
P.B. LEVEL ADJ.
LINE AMP. IN
IC 1
LINE OUTPUT
TR 3
METER SENSITIVITY ADJ.
VR2 5KB
VU METER
HIGH SENSITIVITY V.T.V.M.

Fig. 17 P.B. AMP. BLOCK DIAGRAM

1. PLAYBACK LEVEL ADJUSTMENT
(See Fig. 16)

1) Connect a High Sensitivity V.T.V.M. to the line output.
2) Set Tape Speed Selector to 7-1/2 ips.
3) Depress both LEFT and RIGHT Track Selector Switches.
4) Set Monitor Switch to TAPE position and Line Output Level Controls to maximum.
5) Playback a 250 Hz, 7-1/2 ips pre-recorded tape.
6) With P.B. Amp. P.C. Board (KH-5014) semi-fixed resistors VR-1 and VR-1b (20k B), set the line output level of both channels to 4 ±1.5 dB.

2. VU METER SENSITIVITY ADJUSTMENT
(See Fig. 16)

Adjust P.B. Amp. P.C. Board (KH-5014) semi-fixed resistors VR-2 and VR-2b (5k B) to obtain a VU meter indication of "0" VU on both channels.

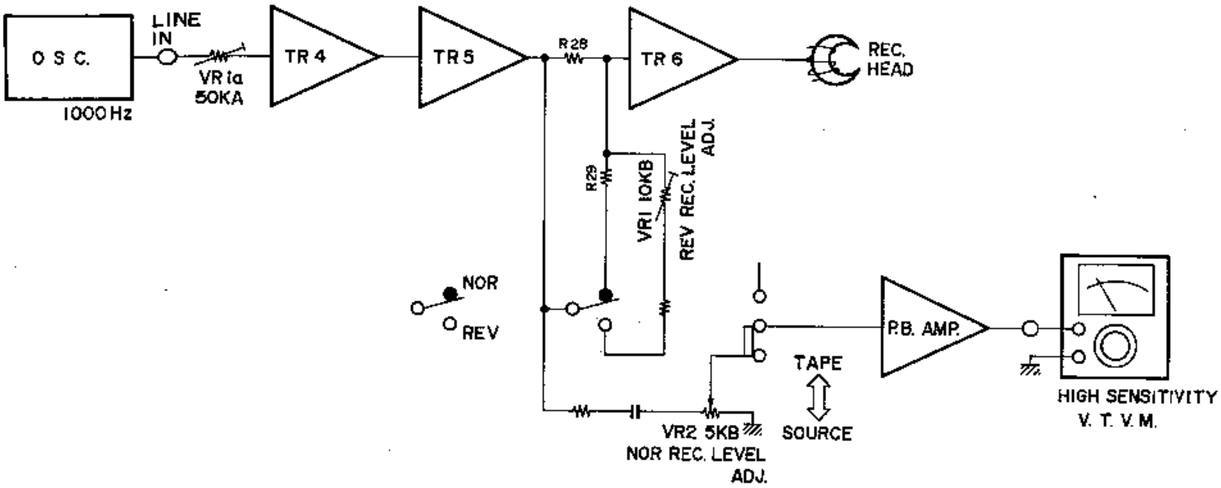

O S C.
1000 Hz
LINE IN
VR 1a 50KA
TR 4
TR 5
R28
TR 6
REC. HEAD
R29
VR1 10KB
REV REC. LEVEL ADJ.
NOR
REV
TAPE
SOURCE
P.B. AMP.
HIGH SENSITIVITY V. T. V. M.
VR2 5KB
NOR REC. LEVEL ADJ.

Fig. 18 REC. AMP. BLOCK DIAGRAM

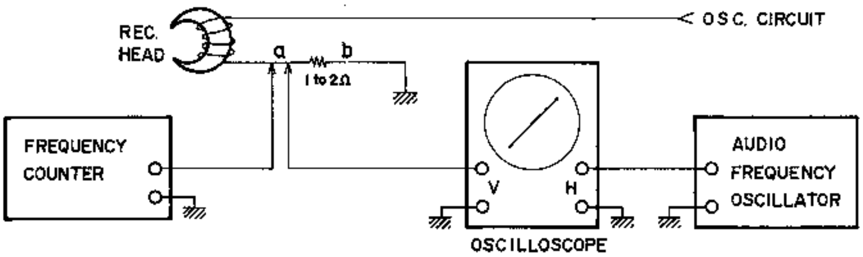

REC. HEAD
a
b
1 to 2Ω
OSC. CIRCUIT
FREQUENCY COUNTER
V
H
OSCILLOSCOPE
AUDIO FREQUENCY OSCILLATOR

Fig. 19

3. RECORDING LEVEL ADJUSTMENT (See Fig. 16)

1) Connect an Audio Frequency Oscillator to the line input and connect a High Sensitivity V.T.V.M. to the line output.
2) Set Tape Speed Selector to 7-1/2 ips.
3) Depress both LEFT and RIGHT Track Selector Switches.
4) Load an AKAI 100L (Fuji S-100) blank tape. Set the Monitor Switch to TAPE position and the Line Output Level Controls to maximum.
5) Set recorder to FWD recording mode and supply a 1,000 Hz sine wave signal to the line input from the Audio Frequency Oscillator. Adjust line recording level volume controls VR-1a and VR-1b (20k B) to obtain a line output level of 4 dB (0 VU) on both channels.
6) Set Monitor Switch to SOURCE position and adjust Monitor Switch P.C. Board (KH-5012) semi-fixed resistors VR-1 and VR-2 (5k B) to obtain a 4 dB line output level on both channels.
7) When the FWD recording level adjustment is completed, set the recorder to REV recording mode and set the Monitor Switch to TAPE position.
8) Adjust Rec. Amp P.C. Board (KH-5013) semi-fixed resistors VR-1 and VR-1b (10k B) to obtain a line output level of 4 dB on both channels.

4. RECORDING BIAS FREQUENCY MEASURING METHOD AND ADJUSTMENT

Method I

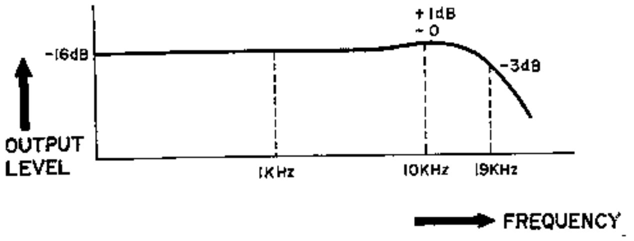
1) Install a 1 to 2 Ω resistor in series with the recording head and connect these terminals (a)(b) to the vertical input of an oscilloscope. (See Fig. 19)
2) Supply a sine wave signal to the horizontal input of the Oscilloscope from an Audio Frequency Oscillator. Set recorder to the REC mode.
3) Vary the frequency of the Audio Frequency Oscillator until the oscilloscope waveform displays a circular or linear pattern.
4) If the audio frequency oscillator indication is 103 ±5 kHz, the recording bias frequency is correct.

Method II

1) Connect a Frequency Counter to points (a) and (b) as shown in Fig. 19. Set recorder to the REC mode, and take a frequency counter reading at this time.
2) If the Frequency Counter indication is 103 ±5 kHz, the recording bias frequency is correct.

Adjustment

The recording bias frequency can be adjusted by changing the value of OSC. circuit condenser C-4 (4500P/500).



TAPE SPEED 3-3/4 ips

Fig. 20

5. RECORDING BIAS VOLTAGE ADJUSTMENT (Frequency Response Adjustment)

1) Refer to section regarding Frequency Response Measuring Method (Fig. 3 of this manual)
2) Adjust OSC. P.C. Board semi-fixed capacitors C-5 to C-8 (70P) so that a 10 kHz signal output level is within +1/-0 dB in relation to 1,000 Hz. (See Figs. 16 & 17)
3) The bias voltage after the frequency response adjustment has been made is about 5V AC.

NOTE: The frequency response will vary depending upon the tape being used.

6. ERASE VOLTAGE

There is no way to adjust the erase voltage, but correct value is about 23V AC.

7. COMPUTE-O-MATIC RECORDING LEVEL SENSITIVITY ADJUSTMENT

1) Connect an Audio Frequency Oscillator to the left microphone input and connect a High Sensitivity V.T.V.M. to the left line output.
2) Supply a 1,000 Hz sine wave from the audio frequency oscillator.
3) Set the Monitor Switch to SOURCE position and depress both the LEFT and RIGHT Track Selector Switches.
4) Adjust COM-DET (Compute-O-Matic Detector) P.C. Board (RD-A514) semi-fixed resistor VR-201 (100k B) to obtain a 4 dB V.T.V.M. indication when the Compute-O-Matic Button is depressed.

VII. TRANSPORT MECHANISM

1. TRANSISTOR, RELAY, AND PLUNGER SOLENOID OPERATION CHART

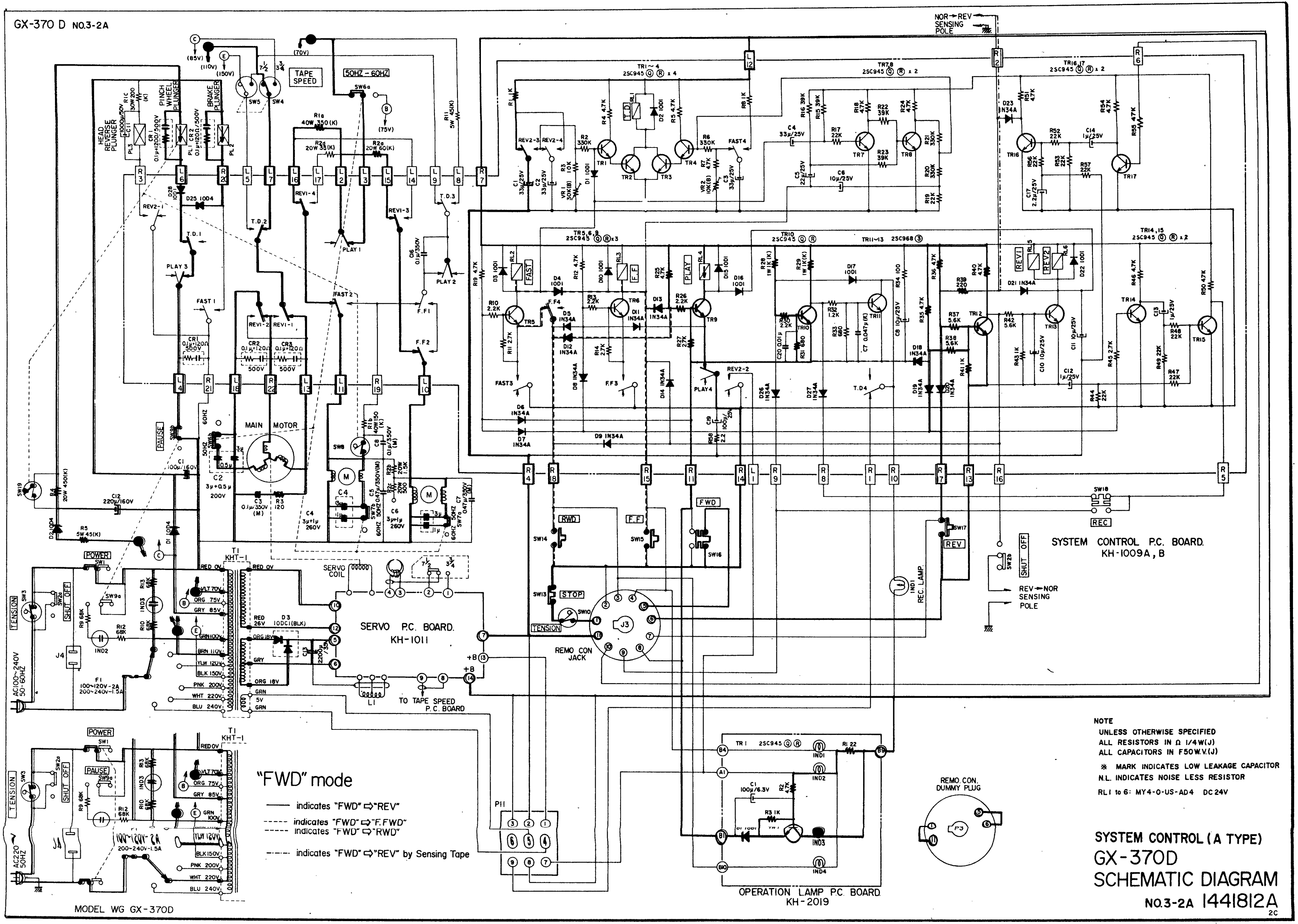
(Refer to Schematic Diagram 1 through 6)

FUNCTION		RWD	REV	STOP	FWD	F.FWD	FWD REC	REV REC
TRANSISTORS	TR1							
	TR2							
	TR3							
	TR4							
	TR5	○				○		
	TR6					○		
	TR7	○	○	○	○	○	○	○
	TR8	○	○	○	○	○	○	○
	TR9		○		○		○	○
	TR10	○	○	○	○	○		
	TR11						○	○
	TR12	○		○	○	○	○	○
	TR13		○					○
	TR14	○	○	○	○	○	○	○
	TR15						Δ	Δ
	TR16							
	TR17							
RELAYS	T.D RL1							
	FAST RL2	○				○		
	F.F RL3					○		
	PLAY RL4		○		○		○	○
	REV 1 RL5		○					○
	REV 2 RL6		○					○
PLUNGER SOLENOIDS	PINCH WHEEL PL1		○		○		○	○
	BRAKE PL2	○	○		○	○	○	○
	HEAD REV PL3		○					○

○ mark indicates "engaged"

Δ mark indicates "momentarily engaged" when the REC, FWD or REV button is depressed

Chart 1


GX-370 D NO.3-2A
NOR→REV SENSING POLE
(85V) (110V) (150V) (70V) (75V)
TAPE SPEED
50HZ—60HZ
SW6a SW5 SW4
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
PL1 PL2 PL3
R1a 40W 350 (K)
R2a 20W 35(K)
R2a 20W 60(K)
R11 5W 45(K)
TR1~4 2SC945 Ⓠ Ⓡ x 4
TR7,8 2SC945 Ⓠ Ⓡ x 2
TR16,17 2SC945 Ⓠ Ⓡ x 2
TR5,6,9 2SC945 Ⓠ Ⓡ x3
TR10 2SC945 Ⓠ Ⓡ
TR11~13 2SC968 ③
TR14,15 2SC945 Ⓠ Ⓡ x 2
REV2-3 REV2-4 FAST4 REV1-4 REV1-3 REV2-1 REV1-2 REV1-1 REV2-2
T.D.1 T.D.2 T.D.3 T.D.4
PLAY 1 PLAY 2 PLAY 3 PLAY4
FAST 1 FAST 2 FAST3
F.F1 F.F2 F.F3 F.F4
CR1 0.1μ+120Ω 500V
CR2 0.1μ+120Ω 500V
CR3 0.1μ+120Ω 500V
FAST F.F PLAY REV1 REV2
RL1 RL2 RL3 RL4 RL5 RL6
MAIN MOTOR
PAUSE
SW8 SW19 SW18 SW17 SW14 SW15 SW16 SW13 SW10 SW2b
REC REV RWD F.F FWD STOP TENSION SHUT OFF
SYSTEM CONTROL P.C. BOARD. KH-1009A, B
REV→NOR SENSING POLE
REC. LAMP IND1
T1 KHT-1
SERVO COIL
SERVO P.C. BOARD. KH-1011
TO TAPE SPEED P.C. BOARD
REMO CON JACK J3
POWER SW1 SW9a SW3 SW2a
TENSION SHUT OFF
AC100~240V 50-60HZ
F1 100~120V-2A 200~240V-1.5A
J4 IND2 IND3
RED 0V VLT 70V ORG 75V GRY 85V GRN 100V BRN 110V YLW 120V BLK 150V PNK 200V WHT 220V BLU 240V
RED 26V D3 10DC1(BLK) ORG 18V GRN 5V
P11
OPERATION LAMP P.C. BOARD KH-2019
TR1 2SC945 Ⓠ Ⓡ
IND1 IND2 IND3 IND4
REMO CON. DUMMY PLUG P3
"FWD" mode
—— indicates "FWD" ⇨ "REV"
------ indicates "FWD" ⇨ "F.FWD"
------ indicates "FWD" ⇨ "RWD"
-·-·- indicates "FWD" ⇨ "REV" by Sensing Tape
POWER SW1 PAUSE SW9a TENSION SHUT OFF
AC220~ 50HZ
100~120V-2A 200~240V-1.5A
T1 KHT-1
MODEL WG GX-370D

NOTE

UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN Ω 1/4W(J)

ALL CAPACITORS IN F50W.V.(J)

※ MARK INDICATES LOW LEAKAGE CAPACITOR

N.L. INDICATES NOISE LESS RESISTOR

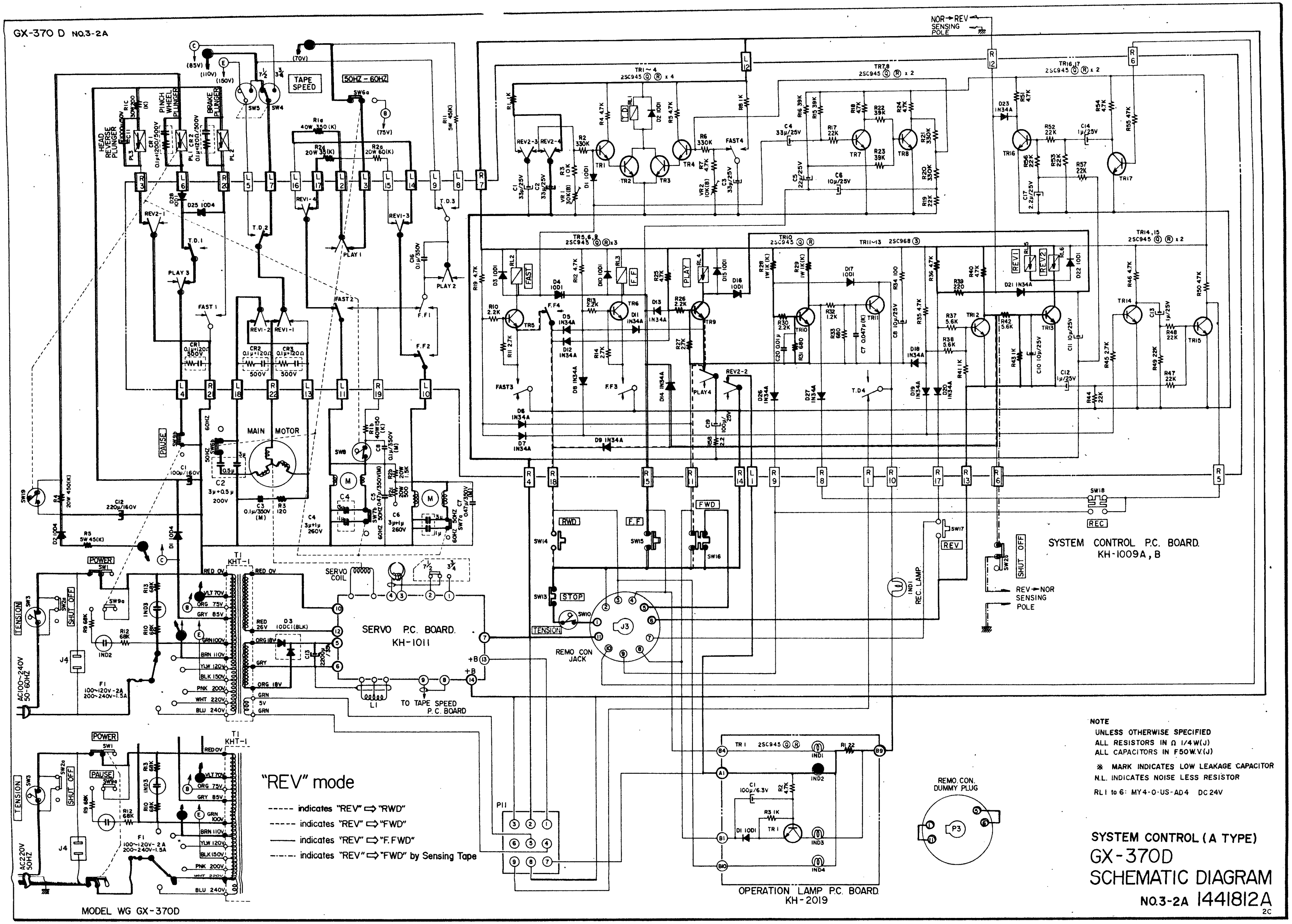
RL1 to 6: MY4-0-US-AD4 DC24V

SYSTEM CONTROL (A TYPE)

GX-370D SCHEMATIC DIAGRAM

NO.3-2A 1441812A

2C

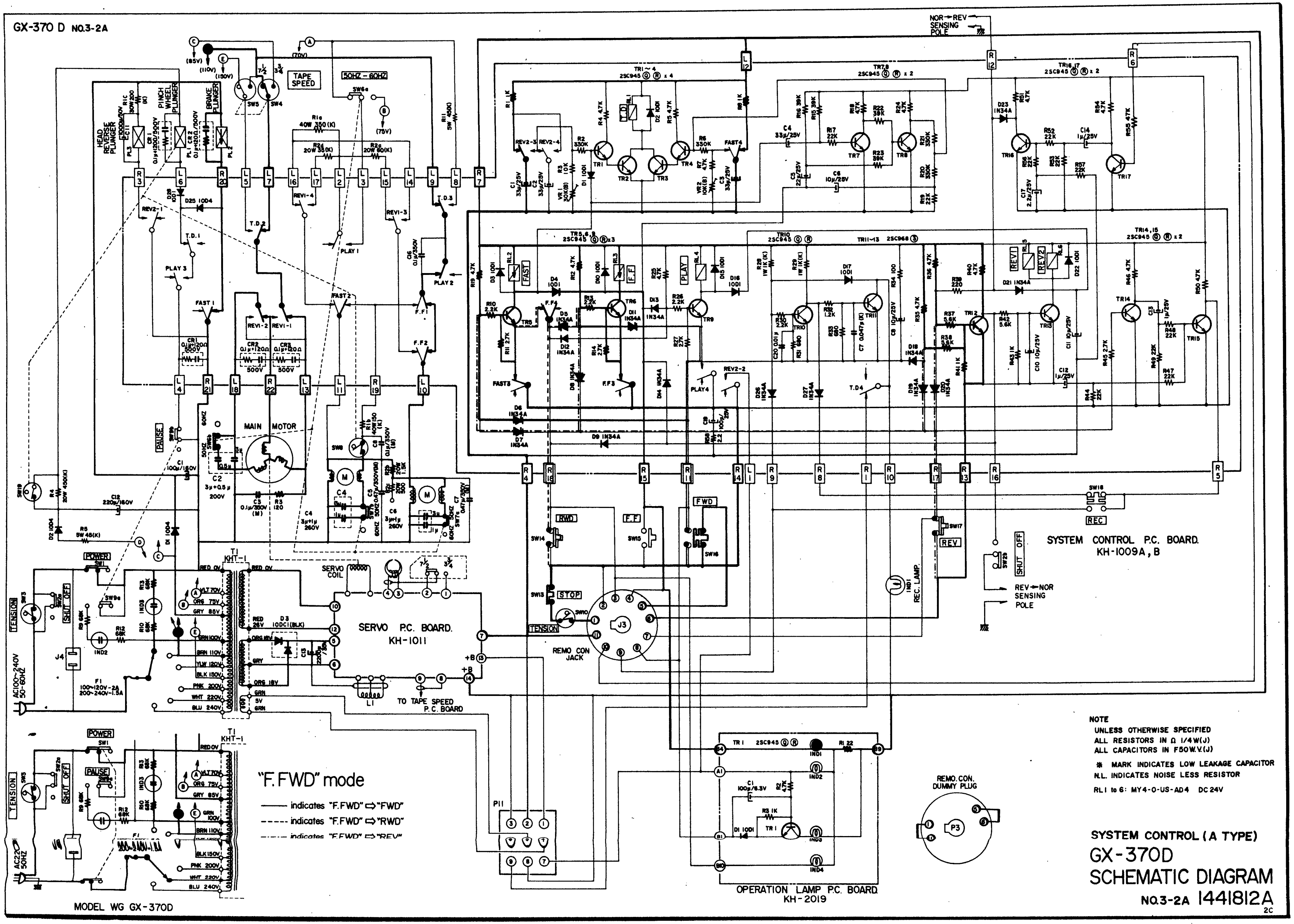

GX-370 D NO.3-2A
TAPE SPEED
50HZ - 60HZ
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
AC100~240V 50-60HZ
AC220V 50HZ
SERVO COIL
SERVO P.C. BOARD KH-1011
TO TAPE SPEED P.C. BOARD
RWD
F.F
FWD
STOP
REC
REV
REMO CON JACK
REC. LAMP
NOR→REV SENSING POLE
REV→NOR SENSING POLE
SYSTEM CONTROL P.C. BOARD KH-1009A, B
OPERATION LAMP P.C. BOARD KH-2019
REMO.CON. DUMMY PLUG
MODEL WG GX-370D
TR1~4 2SC945 Ⓠ Ⓡ x 4
TR7,8 2SC945 Ⓠ Ⓡ x 2
TR16,17 2SC945 Ⓠ Ⓡ x 2
TR5,6,9 2SC945 Ⓠ Ⓡ x3
TR10 2SC945 Ⓠ Ⓡ
TR11~13 2SC968 ③
TR14,15 2SC945 Ⓠ Ⓡ x 2

"REV" mode

- - - - - indicates "REV" ⇨ "RWD"
- - - - - indicates "REV" ⇨ "FWD"
——— indicates "REV" ⇨ "F.FWD"
-·-·-·- indicates "REV" ⇨ "FWD" by Sensing Tape

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN F50W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR
N.L. INDICATES NOISE LESS RESISTOR
RL1 to 6: MY4-0-US-AD4 DC24V

SYSTEM CONTROL (A TYPE)
GX-370D
SCHEMATIC DIAGRAM
NO.3-2A 1441812A
2C

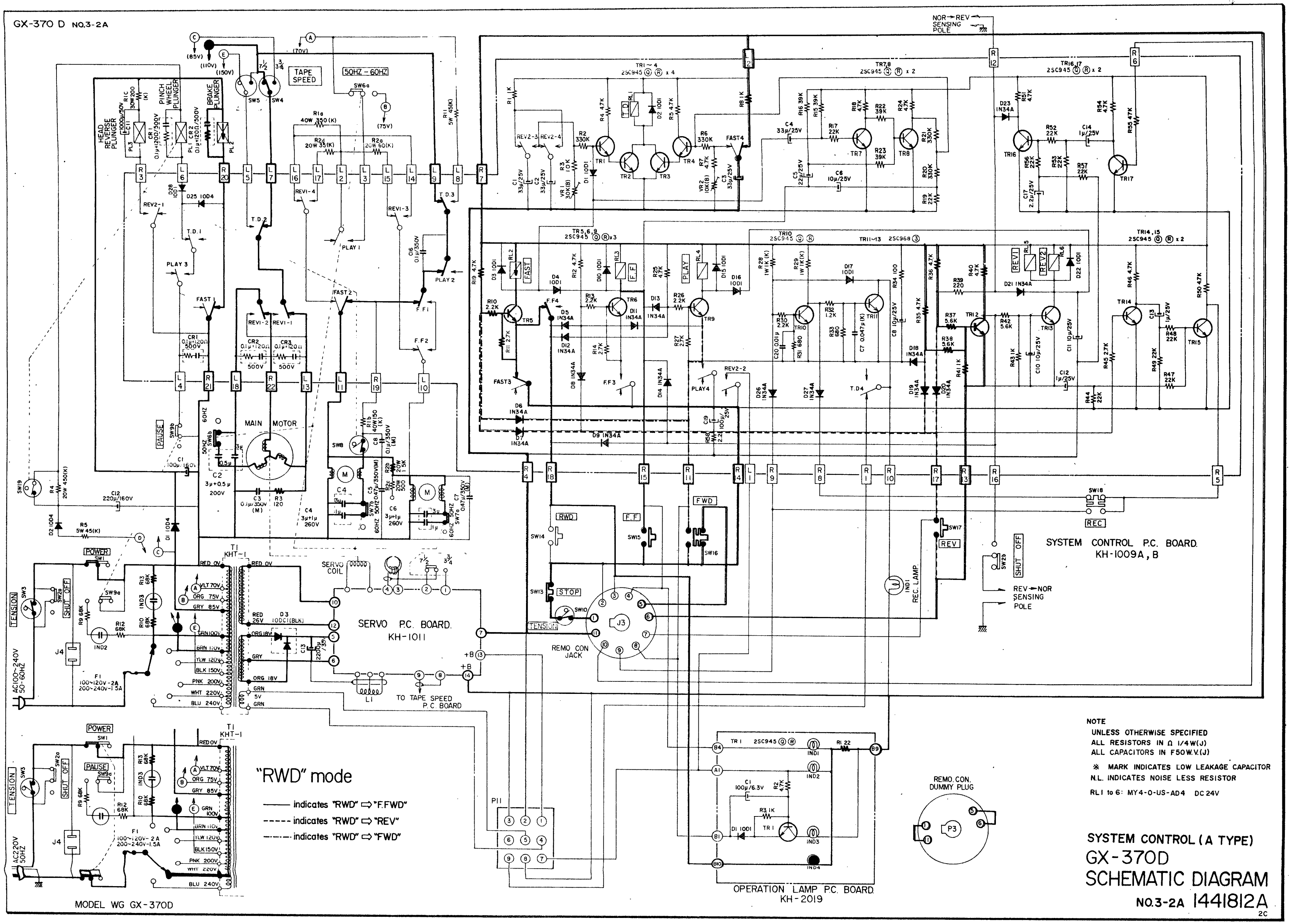

GX-370 D NO.3-2A
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ - 60HZ
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
AC100~240V 50-60HZ
F1 100~120V-2A 200~240V-1.5A
T1 KHT-1
SERVO COIL
SERVO P.C. BOARD KH-1011
TO TAPE SPEED P.C. BOARD
REMO CON JACK
J3
NOR→REV SENSING POLE
TR1~4 2SC945 Ⓠ Ⓡ x 4
TR7,8 2SC945 Ⓠ Ⓡ x 2
TR16,17 2SC945 Ⓠ Ⓡ x 2
TR5,6,9 2SC945 Ⓠ Ⓡ x3
TR10 2SC945 Ⓠ Ⓡ
TR11~13 2SC968 Ⓑ
TR14,15 2SC945 Ⓠ Ⓡ x 2
FAST
F.F
PLAY
REV1
REV2
T.D
RWD
FWD
STOP
REC
REV
REC. LAMP
SYSTEM CONTROL P.C. BOARD. KH-1009A, B
REV→NOR SENSING POLE
OPERATION LAMP P.C. BOARD KH-2019
TR1 2SC945 Ⓠ Ⓡ
REMO. CON. DUMMY PLUG
P3
P11
MODEL WG GX-370D
AC220V 50HZ
"F.FWD" mode
——— indicates "F.FWD" ⇨ "FWD"
- - - - indicates "F.FWD" ⇨ "RWD"
-·-·- indicates "F.FWD" ⇨ "REV"

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN F50W.V.(J)
* MARK INDICATES LOW LEAKAGE CAPACITOR
N.L. INDICATES NOISE LESS RESISTOR
RL1 to 6: MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (A TYPE)

GX-370D SCHEMATIC DIAGRAM

NO.3-2A 1441812A
2C


GX-370 D NO.3-2A
(85V)
(110V)
(150V)
(70V)
(75V)
TAPE SPEED
50HZ-60HZ
SW4
SW5
SW6a
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
PL1
PL2
PL3
REV2-1
REV1-4
REV1-3
REV1-2
REV1-1
T.D.1
T.D.2
T.D.3
PLAY 1
PLAY 2
PLAY 3
FAST
FAST 2
F.F1
F.F2
MAIN MOTOR
60HZ
50HZ
PAUSE
SW8
SW19
C12 220μ/160V
R5 SW 45(K)
POWER
SW1
SW3
SW2a
SW9a
SHUT OFF
TENSION
J4
F1 100~120V-2A 200~240V-1.5A
AC100~240V 50-60HZ
T1 KHT-1
RED 0V
VLT 70V
ORG 75V
GRY 85V
GRN 100V
BRN 110V
YLW 120V
BLK 150V
PNK 200V
WHT 220V
BLU 240V
ORG 18V
5V
SERVO COIL
SERVO P.C. BOARD KH-1011
TO TAPE SPEED P.C. BOARD
L1
TR1~4 2SC945 Ⓠ Ⓡ x 4
TR7,8 2SC945 Ⓠ Ⓡ x 2
TR16,17 2SC945 Ⓠ Ⓡ x 2
TR5,6,9 2SC945 Ⓠ Ⓡ x 3
TR10 2SC945 Ⓠ Ⓡ
TR11~13 2SC968 ③
TR14,15 2SC945 Ⓠ Ⓡ x 2
NOR→REV SENSING POLE
REV→NOR SENSING POLE
FAST4
FAST3
F.F3
F.F4
PLAY4
REV2-2
T.D4
RL1
RL2
RL3
RL4
RL5
RL6
FAST
F.F
PLAY
REV1
REV2
RWD
F.F
FWD
STOP
TENSION
REC
REV
SHUT OFF
SW10
SW13
SW14
SW15
SW16
SW17
SW18
SW2b
IND1 REC. LAMP
J3
REMO CON JACK
SYSTEM CONTROL P.C. BOARD KH-1009A,B
P11
REMO.CON. DUMMY PLUG
P3
OPERATION LAMP P.C. BOARD KH-2019
TR1 2SC945 Ⓠ Ⓡ
IND1
IND2
IND3
IND4
AC220V 50HZ
MODEL WG GX-370D

"RWD" mode

——— indicates "RWD" ⇨ "F.FWD"

- - - - indicates "RWD" ⇨ "REV"

-·-·-·- indicates "RWD" ⇨ "FWD"

NOTE

UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN Ω 1/4W(J)

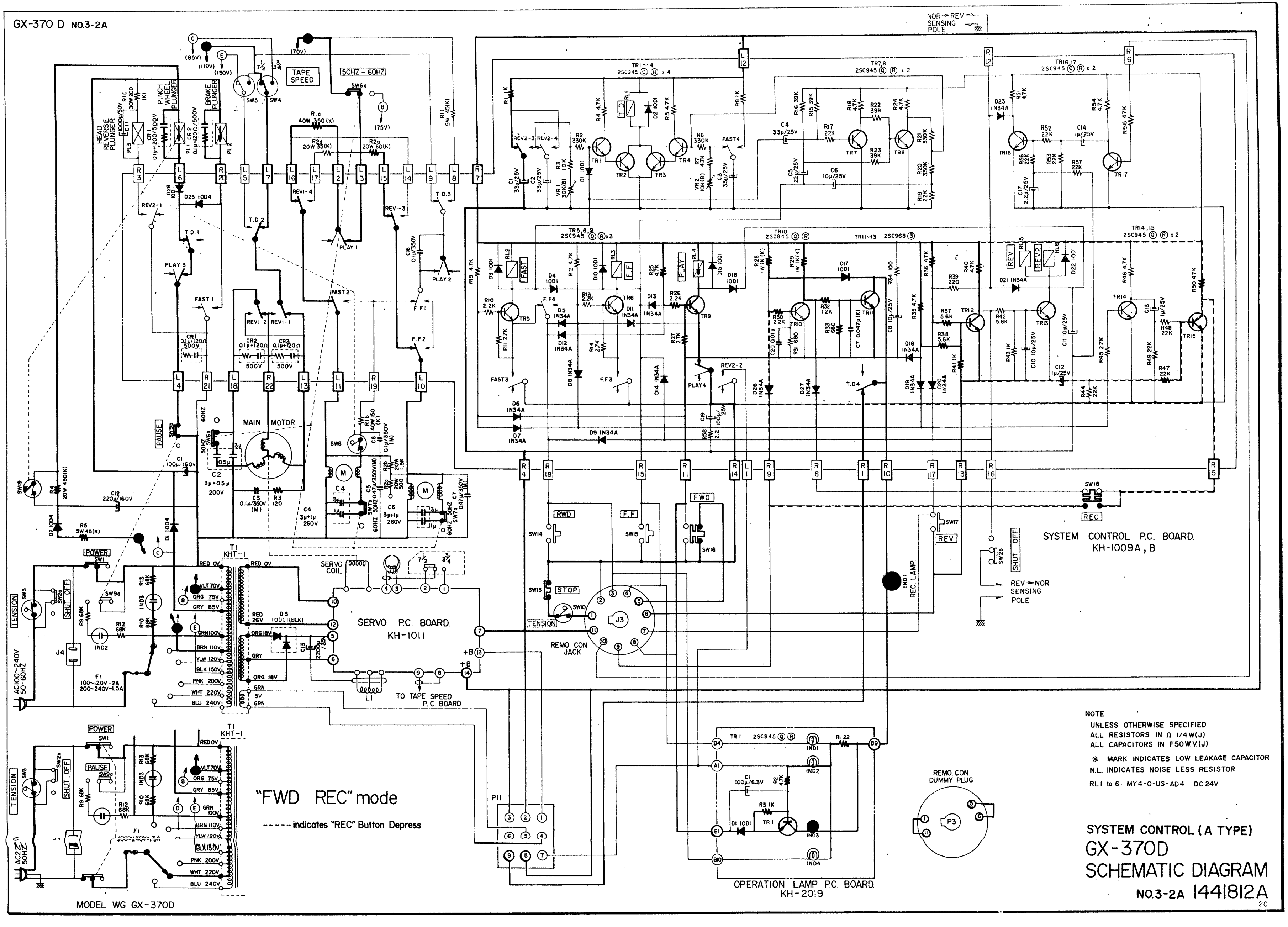
ALL CAPACITORS IN F50W.V.(J)

※ MARK INDICATES LOW LEAKAGE CAPACITOR

N.L. INDICATES NOISE LESS RESISTOR

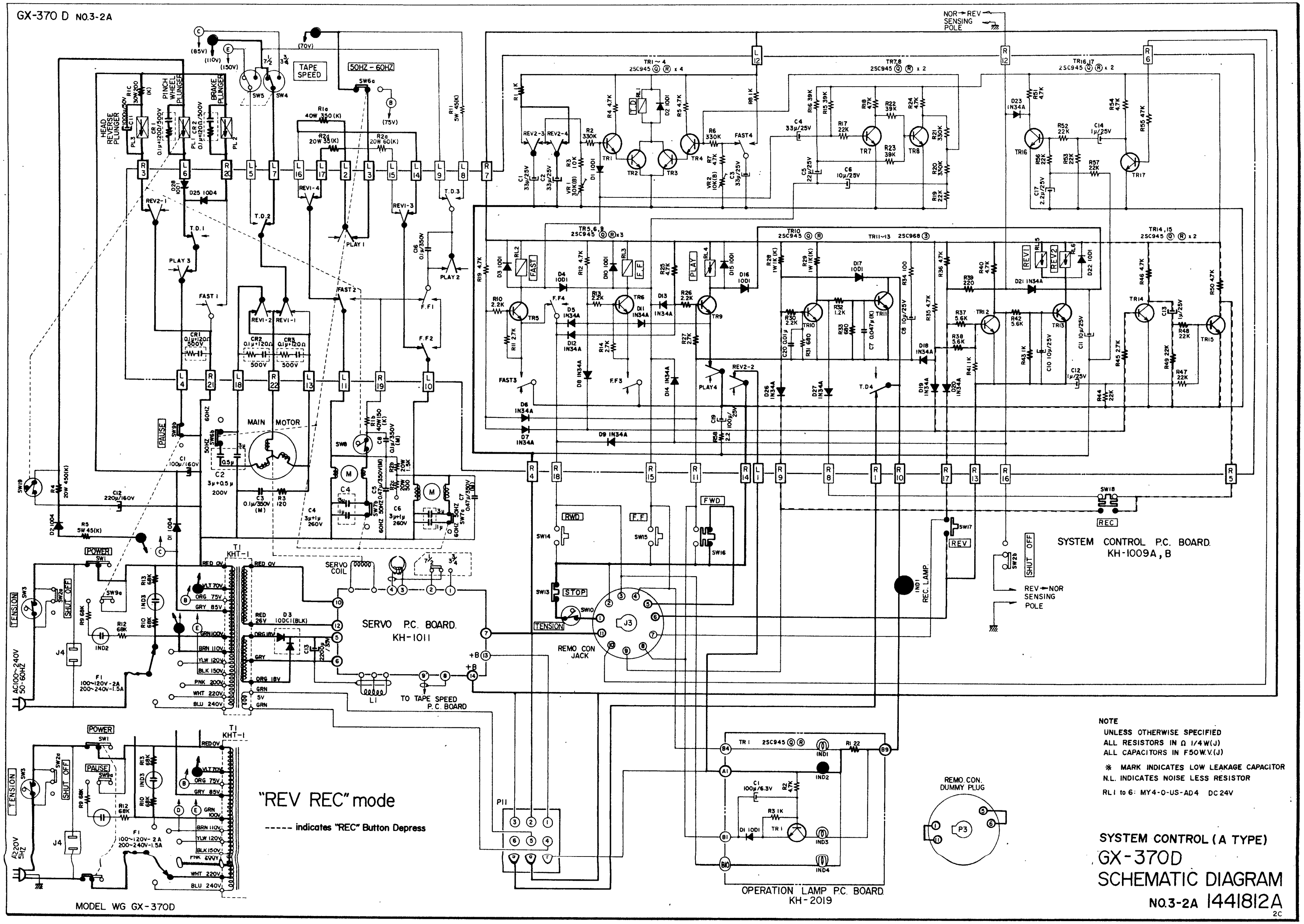
RL1 to 6: MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (A TYPE)
GX-370D
SCHEMATIC DIAGRAM
NO.3-2A 1441812A
2C


GX-370 D NO.3-2A
TAPE SPEED
50HZ - 60HZ
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TR1~4 2SC945 Ⓠ Ⓡ x 4
TR7,8 2SC945 Ⓠ Ⓡ x 2
TR16,17 2SC945 Ⓠ Ⓡ x 2
TR5,6,9 2SC945 Ⓠ Ⓡ x3
TR10 2SC945 Ⓠ Ⓡ
TR11~13 2SC968 ③
TR14,15 2SC945 Ⓠ Ⓡ x 2
NOR→REV SENSING POLE
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
AC100~240V 50-60HZ
SERVO COIL
SERVO P.C. BOARD KH-1011
TO TAPE SPEED P.C. BOARD
REMO CON JACK
STOP
RWD
F.F
FWD
REC
REV
SYSTEM CONTROL P.C. BOARD KH-1009A, B
REV→NOR SENSING POLE
REC. LAMP
OPERATION LAMP P.C. BOARD KH-2019
REMO CON DUMMY PLUG
"FWD REC" mode
----- indicates "REC" Button Depress
MODEL WG GX-370D
AC220V 50HZ

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN F50W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR
N.L. INDICATES NOISE LESS RESISTOR
RL1 to 6: MY4-0-US-AD4 DC24V

SYSTEM CONTROL (A TYPE)
GX-370D
SCHEMATIC DIAGRAM
NO.3-2A 1441812A
2C


GX-370 D NO.3-2A
NOR→REV SENSING POLE
TAPE SPEED
50HZ - 60HZ
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
MAIN MOTOR
PAUSE
POWER
SHUT OFF
TENSION
AC100~240V 50-60HZ
SERVO COIL
SERVO P.C. BOARD. KH-1011
TO TAPE SPEED P.C. BOARD
REMO CON JACK
RWD
F.F
FWD
STOP
REC
REV
REC. LAMP
SYSTEM CONTROL P.C. BOARD. KH-1009A, B
REV←NOR SENSING POLE
OPERATION LAMP P.C. BOARD KH-2019
REMO. CON. DUMMY PLUG
"REV REC" mode
----- indicates "REC" Button Depress
AC220V 50HZ
MODEL WG GX-370D

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN F50W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR
N.L. INDICATES NOISE LESS RESISTOR
RL1 to 6: MY4-0-US-AD4 DC24V

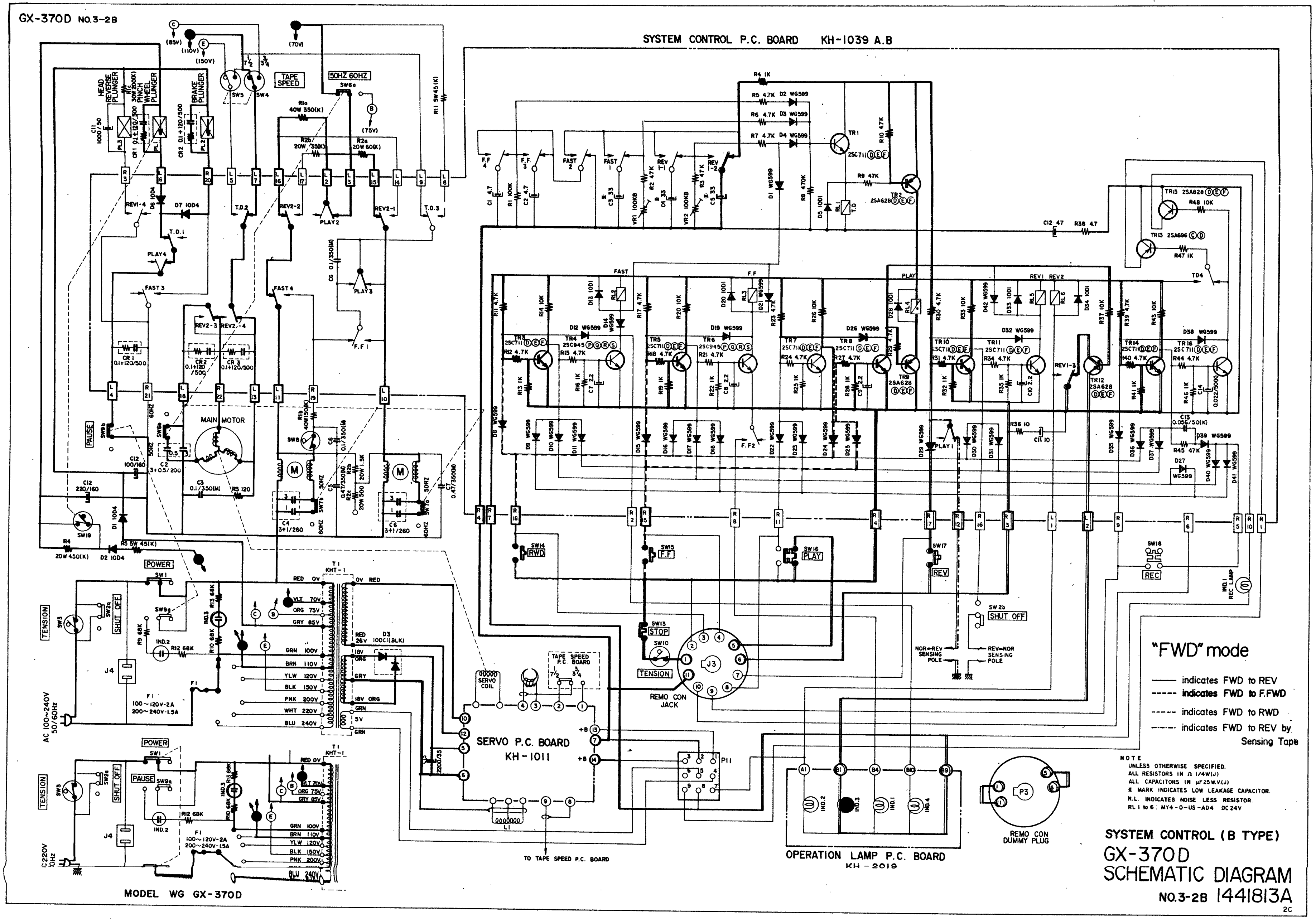
SYSTEM CONTROL (A TYPE)
GX-370D
SCHEMATIC DIAGRAM
NO.3-2A 1441812A
2C

(Refer to Schematic Diagram 7 through 12)

FUNCTION		RWD	REV	STOP	FWD	F.FWD	FWD REC	REV REC
TRANSISTORS	TR1							
	TR2		○		○		○	○
	TR3		○	○	○	○	○	○
	TR4	○						
	TR5	○	○	○	○		○	○
	TR6					○		
	TR7	○		○		○		
	TR8		○		○		○	○
	TR9		○		○		○	○
	TR10	○		○	○	○	○	
	TR11		○					○
	TR12				○		○	
	TR13						○	○
	TR14	○	○	○	○	○		
	TR15						○	○
	TR16						○	○
RELAYS	T.D RL1							
	FAST RL2	○				○		
	F.F RL3					○		
	PLAY RL4		○		○		○	○
	REV1 RL5		○					○
	REV2 RL6		○					○
PLUNGER SOLENOIDS	PINCH WHEEL PL1		○		○		○	○
	BRAKE PL2	○	○		○	○	○	○
	HEAD REV PL3		○					○

○ mark indicates "engaged"

Chart 2


GX-370D NO.3-2B
SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
SERVO COIL
SERVO P.C. BOARD KH-1011
TAPE SPEED P.C. BOARD
TO TAPE SPEED P.C. BOARD
REMO CON JACK
J3
STOP
RWD
F.F
PLAY
REV
REC
IND.1 REC LAMP
SHUT OFF
NOR→REV SENSING POLE
REV→NOR SENSING POLE
P11
OPERATION LAMP P.C. BOARD KH-2019
REMO CON DUMMY PLUG
P3
T1 KHT-1
AC 100~240V 50/60Hz
F1 100~120V-2A 200~240V-1.5A
MODEL WG GX-370D

"FWD" mode

——— indicates FWD to REV

- - - - - indicates FWD to F.FWD

- - - - - indicates FWD to RWD

—·—·— indicates FWD to REV by Sensing Tape

NOTE

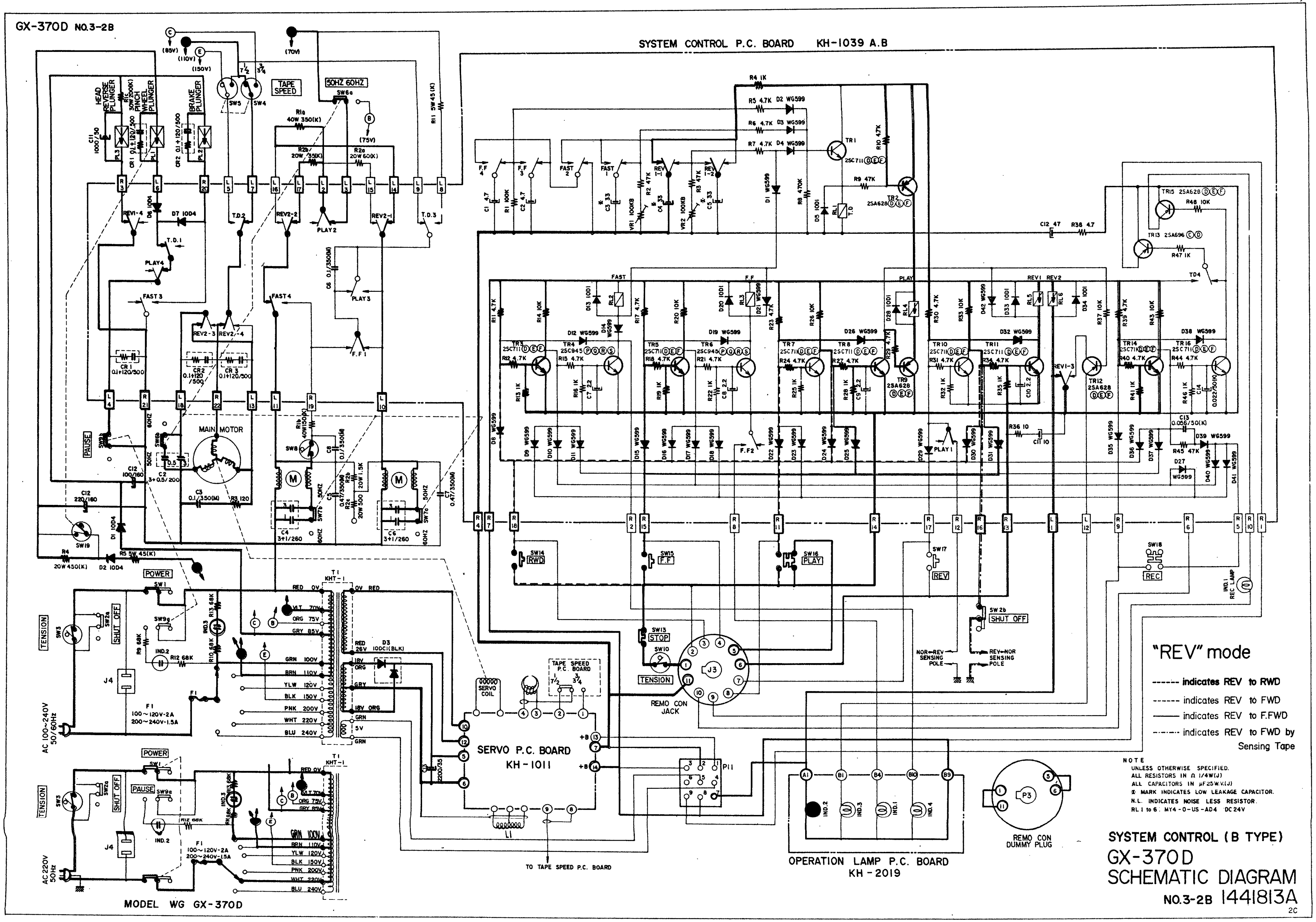
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF 25W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL 1 to 6 : MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (B TYPE)

GX-370D SCHEMATIC DIAGRAM

NO.3-2B 1441813A

2C


GX-370D NO.3-2B
SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
SW5
SW4
SW6a
(85V)
(110V)
(150V)
(70V)
(75V)
R1a 40W 350(K)
R2b 20W 350(K)
R2a 20W 60(K)
R11 5W 45(K)
C11 1000/50
CR1 0.1+120/500
CR2 0.1+120/500
REV1-4
REV2-2
REV2-1
REV2-3
REV2-4
D6 1004
D7 1004
T.D.2
T.D.1
T.D.3
PLAY2
PLAY3
PLAY4
FAST3
FAST4
F.F1
C6 0.1/350(M)
MAIN MOTOR
PAUSE
SW9b
SW8
SW7a
SW7b
SW19
C2 3+0.5/200
C3 0.1/350(M)
R3 120
C4 3+1/260
C5 3+1/260
C8 0.1/350(M)
R1b 40W150(K)
C12 100/160
C12 220/160
R4 20W 450(K)
D2 1004
D1 1004
R5 5W 45(K)
F.F4
F.F3
FAST2
FAST1
REV1-1
REV1-2
R4 1K
R5 4.7K D2 WG599
R6 4.7K D3 WG599
R7 4.7K D4 WG599
TR1 2SC711ⒹⒺⒻ
TR2 2SA628ⒹⒺⒻ
R9 47K
R10 4.7K
R8 470K
D5 1001
RL1
T.D
C12 47
R38 4.7
TR15 2SA628ⒹⒺⒻ
R48 10K
TR13 2SA696 ⒸⒹ
R47 1K
TD4
FAST
F.F
PLAY
REV1
REV2
TR3 2SC711ⒹⒺⒻ
TR4 2SC945ⓅⓆⓇⓈ
TR5 2SC711ⒹⒺⒻ
TR6 2SC945ⓅⓆⓇⓈ
TR7 2SC711ⒹⒺⒻ
TR8 2SC711ⒹⒺⒻ
TR9 2SA628 ⒹⒺⒻ
TR10 2SC711ⒹⒺⒻ
TR11 2SC711ⒹⒺⒻ
TR12 2SA628 ⒹⒺⒻ
TR14 2SC711ⒹⒺⒻ
TR16 2SC711ⒹⒺⒻ
RL2
RL3
RL4
RL5
RL6
F.F2
PLAY1
REV1-3
R36 10
C11 10
C13 0.056/50(K)
D39 WG599
R45 47K
D27 WG599
SW14 RWD
SW15 F.F
SW16 PLAY
SW17 REV
SW18 REC
IND.1 REC LAMP
SW2b SHUT OFF
SW13 STOP
SW10
TENSION
J3
REMO CON JACK
NOR→REV SENSING POLE
REV→NOR SENSING POLE
POWER
SW1
SW9a
SW2a SHUT OFF
SW3
TENSION
R13 68K
IND.3
R9 68K
IND.2
R12 68K
R10 68K
J4
F1 100~120V-2A 200~240V-1.5A
AC 100~240V 50/60Hz
T1 KHT-1
RED 0V
VLT 70V
ORG 75V
GRY 85V
GRN 100V
BRN 110V
YLW 120V
BLK 150V
PNK 200V
WHT 220V
BLU 240V
0V RED
RED 26V
D3 10DC1(BLK)
18V ORG
GRY
18V ORG
GRN
5V
GRN
SERVO COIL
TAPE SPEED P.C. BOARD
SERVO P.C. BOARD KH-1011
C13 2200/35
L1
TO TAPE SPEED P.C. BOARD
P11
OPERATION LAMP P.C. BOARD KH-2019
IND.2
IND.3
IND.1
IND.4
REMO CON DUMMY PLUG
P3
PAUSE
AC 220V 50Hz
MODEL WG GX-370D

"REV" mode

------ **indicates REV to RWD**

------ indicates REV to FWD

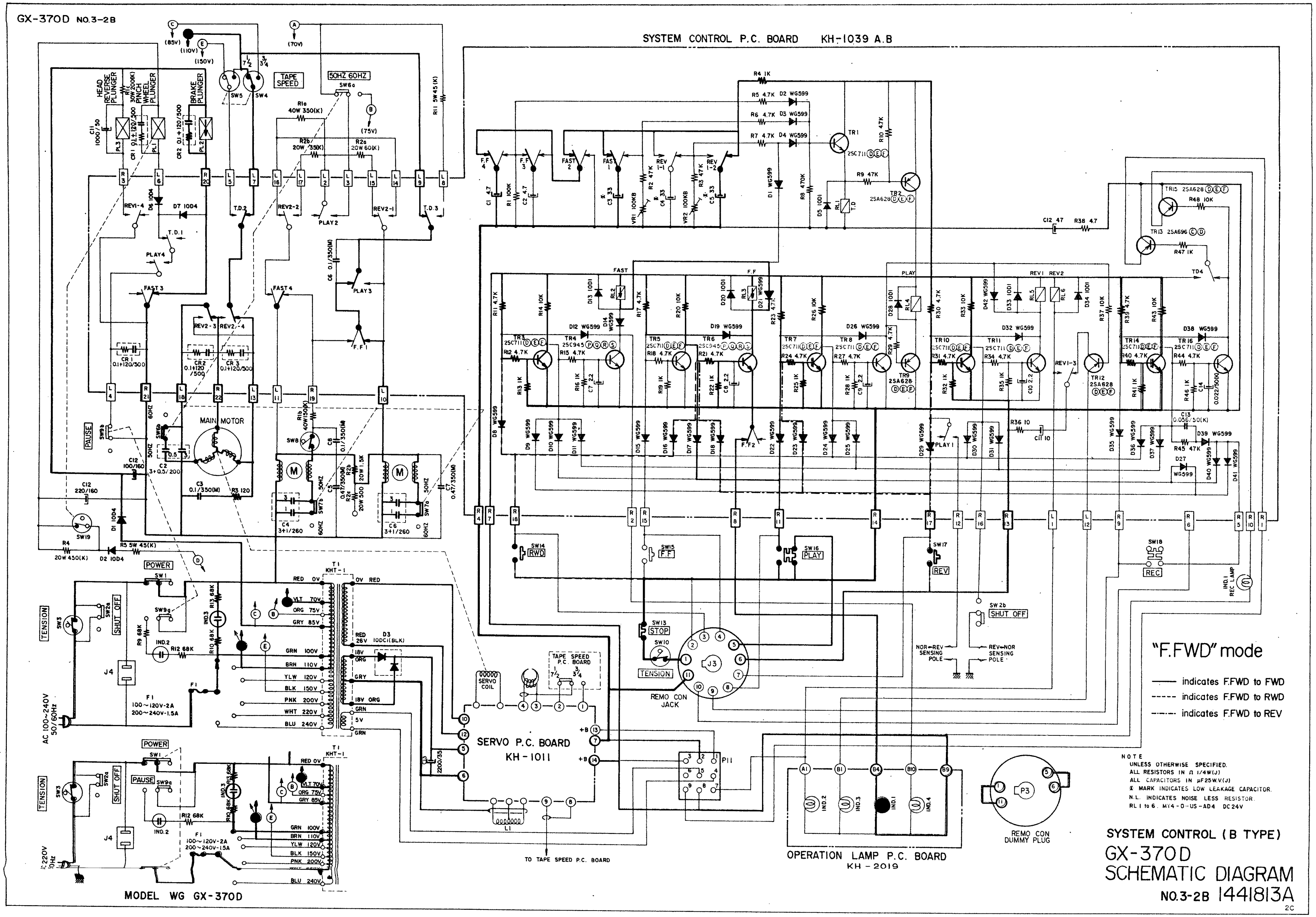
——— indicates REV to F.FWD

-·-·-·- indicates REV to FWD by Sensing Tape

NOTE
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF25W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL1 to 6 : MY4-O-US-AD4 DC24V

SYSTEM CONTROL (B TYPE)

GX-370D
SCHEMATIC DIAGRAM
NO.3-2B 1441813A
2C

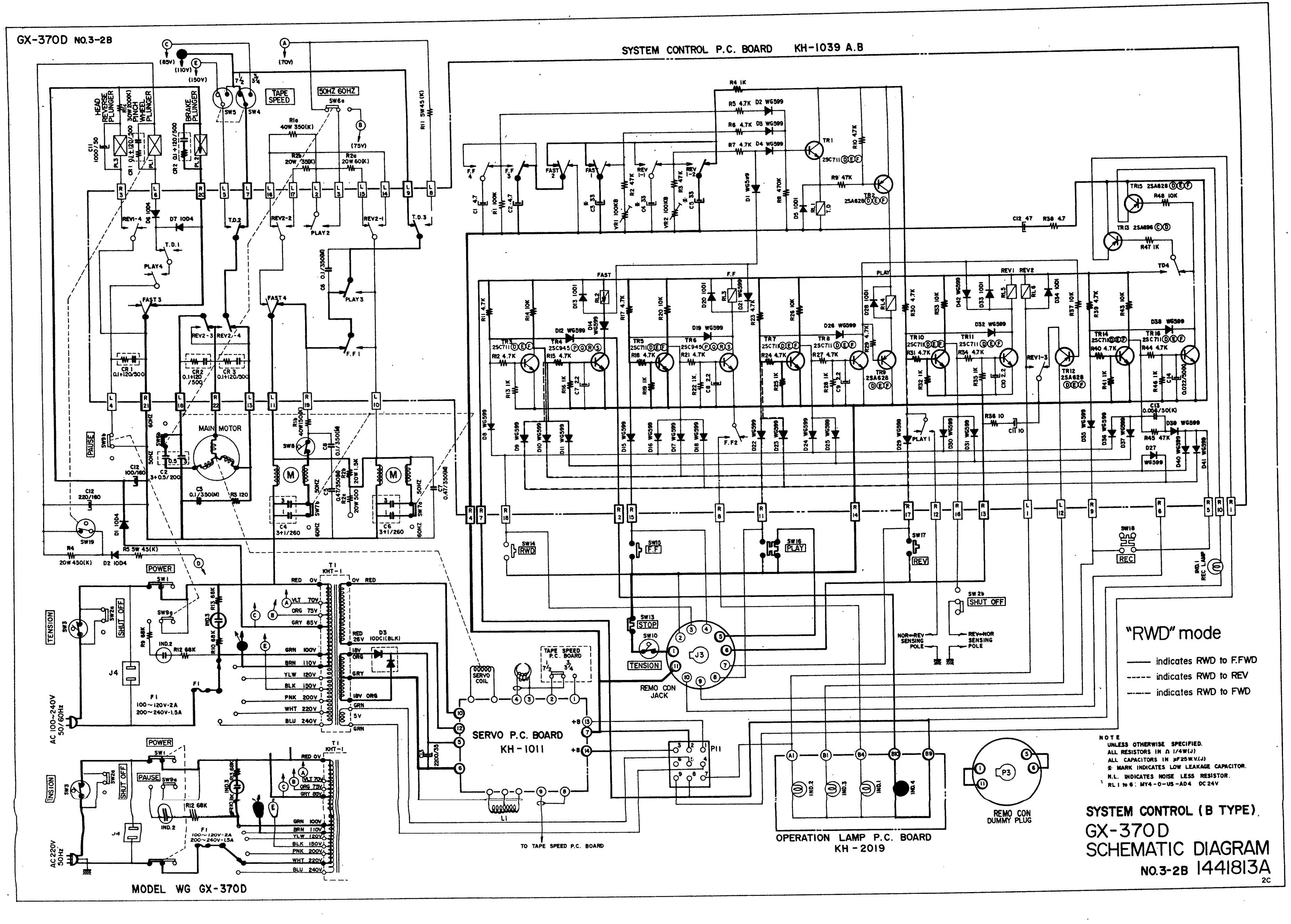

GX-370D NO.3-2B
SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
SW6a
R11 SW 45(K)
R1a 40W 350(K)
R2b 20W 350(K)
R2a 20W 60(K)
C11 1000/50
PL3
PL1
PL2
CR1 0.1+120/500
CR2 0.1+120/500
SW5
SW4
REV1-4
REV2-2
REV2-1
T.D.1
T.D.2
T.D.3
PLAY2
PLAY3
PLAY4
FAST3
FAST4
F.F1
REV2-3
REV2-4
MAIN MOTOR
PAUSE
SW9b
SW8
C12 100/160
C12 220/160
C2 3+0.5/200
C3 0.1/350(M)
R3 120
C4 3+1/260
C6 3+1/260
SW7b
SW7a
SW19
R4 20W 450(K)
R5 5W 45(K)
D1 10D4
D2 10D4
D7 10D4
D6 10D4
POWER
SW1
SW9a
TENSION
SW3
SW2a
SHUT OFF
R9 68K
R12 68K
R13 68K
R10 68K
IND.2
IND.3
J4
F1 100~120V-2A 200~240V-1.5A
AC 100~240V 50/60Hz
T1 KHT-1
RED 0V
VLT 70V
ORG 75V
GRY 85V
GRN 100V
BRN 110V
YLW 120V
BLK 150V
PNK 200V
WHT 220V
BLU 240V
RED 26V
D3 10DC1(BLK)
18V ORG
GRY
18V ORG
GRN
5V
GRN
SERVO COIL
TAPE SPEED P.C. BOARD
SERVO P.C. BOARD KH-1011
L1
TO TAPE SPEED P.C. BOARD
2200/35
R1 100K
R2 47K
R3 47K
VR1 100KB
VR2 100KB
C1 4.7
C2 4.7
C3 33
C4 33
C5 33
R4 1K
R5 4.7K
R6 4.7K
R7 4.7K
D2 WG599
D3 WG599
D4 WG599
TR1 2SC711(D)(E)(F)
TR2 2SA628(D)(E)(F)
R9 47K
R10 47K
R8 470K
RL1
D5 10D1
TR15 2SA628(D)(E)(F)
R48 10K
TR13 2SA696(C)(D)
R47 1K
C12 47
R38 4.7
TD4
FAST
F.F
PLAY
REV1
REV2
RL2
RL3
RL4
RL5
RL6
TR3 2SC711(D)(E)(F)
TR4 2SC945(P)(Q)(R)(S)
TR5 2SC711(D)(E)(F)
TR6 2SC945(P)(Q)(R)(S)
TR7 2SC711(D)(E)(F)
TR8 2SC711(D)(E)(F)
TR9 2SA628(D)(E)(F)
TR10 2SC711(D)(E)(F)
TR11 2SC711(D)(E)(F)
TR12 2SA628(D)(E)(F)
TR14 2SC711(D)(E)(F)
TR16 2SC711(D)(E)(F)
REV1-3
C13 0.056/50(K)
C14 0.022/50(K)
R36 10
C11 10
R45 47K
PLAY1
F.F2
SW14 RWD
SW15 F.F
SW16 PLAY
SW17 REV
SW18 REC
SW13 STOP
SW10 TENSION
SW2b SHUT OFF
IND.1 REC LAMP
NOR→REV SENSING POLE
REV→NOR SENSING POLE
J3
REMO CON JACK
P11
OPERATION LAMP P.C. BOARD KH-2019
IND.1
IND.2
IND.3
IND.4
P3
REMO CON DUMMY PLUG
MODEL WG GX-370D

"F.FWD" mode

—— indicates F.FWD to FWD
----- indicates F.FWD to RWD
-·-·- indicates F.FWD to REV

NOTE
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF25W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL 1 to 6. MY4-0-US-AD4 DC24V

SYSTEM CONTROL (B TYPE)
GX-370D
SCHEMATIC DIAGRAM
NO.3-2B 1441813A
2C


GX-370D NO.3-2B
SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
SW14 RWD
SW15 F.F
SW16 PLAY
SW17 REV
SW18 REC
SW13 STOP
REC LAMP
NOR→REV SENSING POLE
REV→NOR SENSING POLE
REMO CON JACK
SERVO COIL
TAPE SPEED P.C. BOARD
SERVO P.C. BOARD KH-1011
TO TAPE SPEED P.C. BOARD
OPERATION LAMP P.C. BOARD KH-2019
REMO CON DUMMY PLUG
AC 100~240V 50/60Hz
F1 100~120V-2A 200~240V-1.5A
AC220V 50Hz
T1 KHT-1
MODEL WG GX-370D

"RWD" mode

―――― indicates RWD to F.FWD
- - - - indicates RWD to REV
-·-·-· indicates RWD to FWD

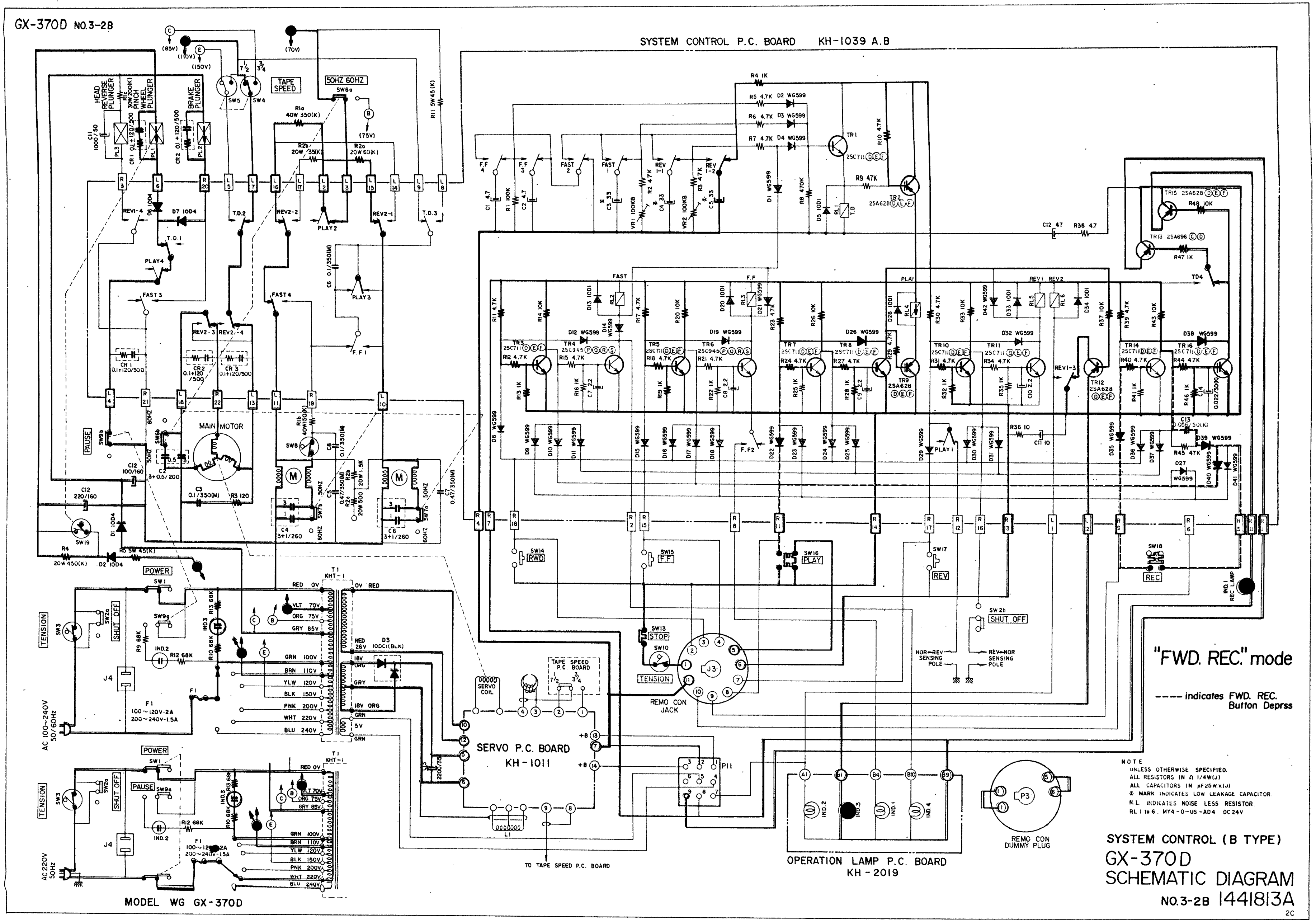
NOTE
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF25W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL 1 to 6 : MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (B TYPE).

GX-370D SCHEMATIC DIAGRAM

NO.3-2B 1441813A

2C


GX-370D NO.3-2B
SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
AC 100~240V 50/60Hz
F1 100~120V-2A 200~240V-1.5A
T1 KHT-1
SERVO P.C. BOARD KH-1011
SERVO COIL
TAPE SPEED P.C BOARD
TO TAPE SPEED P.C. BOARD
REMO CON JACK
J3
STOP
RWD
F.F
PLAY
REV
REC
IND.1 REC LAMP
NOR→REV SENSING POLE
REV→NOR SENSING POLE
OPERATION LAMP P.C. BOARD KH-2019
REMO CON DUMMY PLUG
P3
P11
MODEL WG GX-370D
AC 220V 50Hz

"FWD. REC." mode

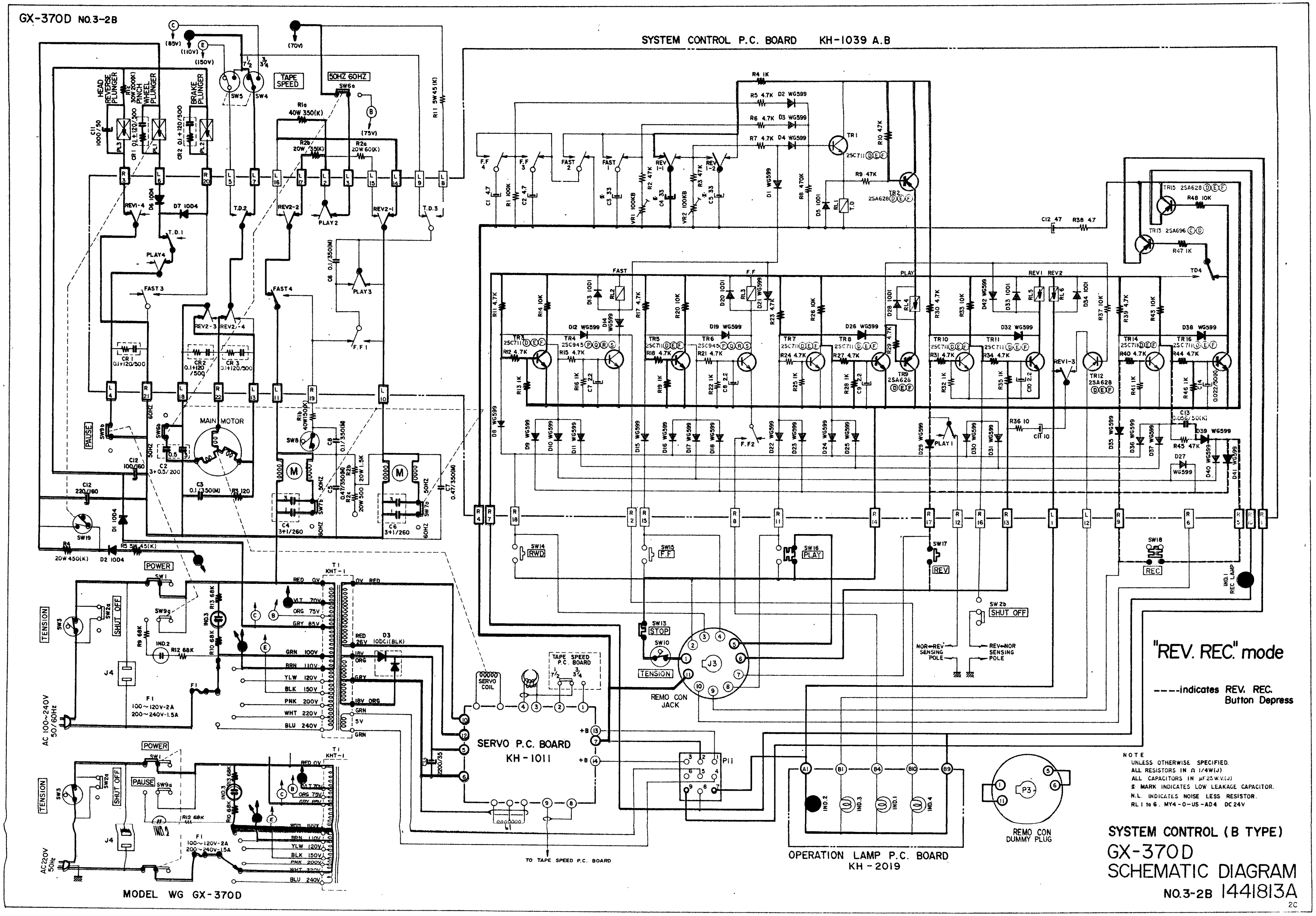
---- indicates FWD. REC. Button Deprss

NOTE
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF 25W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL 1 to 6. MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (B TYPE)

GX-370D
SCHEMATIC DIAGRAM
NO.3-2B 1441813A

2C


GX-370D NO.3-2B
SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
SW5
SW4
SW6a
MAIN MOTOR
PAUSE
SW19
POWER
SW1
SW9a
TENSION
SW3
SW2a
SHUT OFF
J4
AC 100~240V 50/60Hz
F1
100~120V-2A
200~240V-1.5A
T1 KHT-1
D3 10DC1(BLK)
SERVO COIL
TAPE SPEED P.C. BOARD
SERVO P.C. BOARD KH-1011
TO TAPE SPEED P.C. BOARD
SW14 RWD
SW15 F.F
SW16 PLAY
SW17 REV
SW18 REC
IND.1 REC LAMP
SW2b SHUT OFF
SW13 STOP
SW10 TENSION
J3
REMO CON JACK
NOR→REV SENSING POLE
REV→NOR SENSING POLE
P11
OPERATION LAMP P.C. BOARD KH-2019
IND.2
IND.3
IND.1
IND.4
P3
REMO CON DUMMY PLUG
AC220V 50Hz
MODEL WG GX-370D

"REV. REC." mode

----indicates REV. REC. Button Depress

NOTE
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF 25 W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL 1 to 6. MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (B TYPE)

GX-370D SCHEMATIC DIAGRAM

NO.3-2B 1441813A

2C

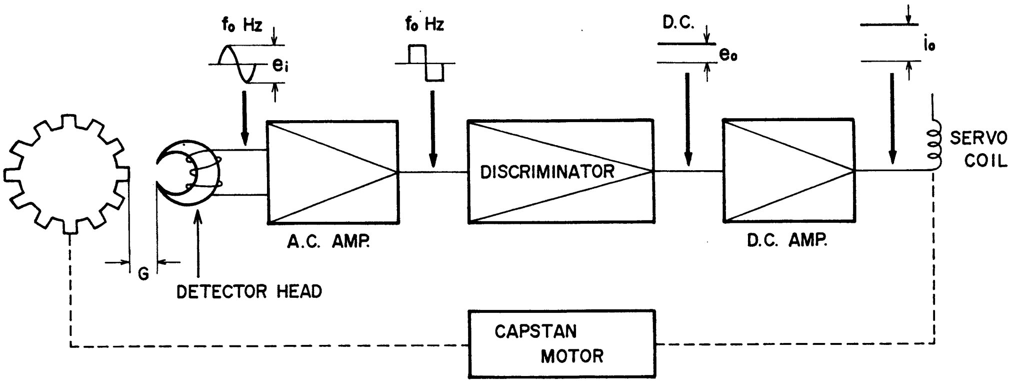
2. VOLTAGE SUPPLY TO TORQUE MOTOR AND TENSION AT VARIOUS MODES

MODE \ TORQUE MOTOR	Left Side	Right Side
FWD	29V (35V) 50g	55V (62V) 170g
REV	61V (67V) 210g	29V (35V) 50g
F.FWD	10V (10V) 15g	118V (118V) 600g
RWD	118V (118V) 600g	10V (10V) 15g

( ) indicates Voltage at 60 Hz.

Chart 3

VIII. SERVO MOTOR OPERATING PRINCIPLES



G (Gap): Adjust to obtain a detector head terminal voltage of 3 ±0.5 mV at 7-1/2 ips.

Fig. 21

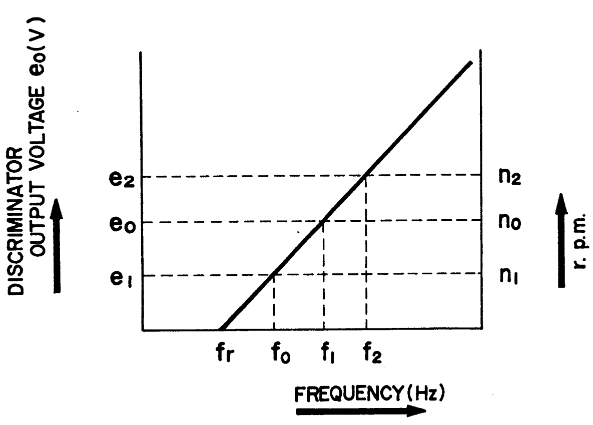


Fig. 22

1. The detector head core is comprised of a permanent magnet, and the gear installed on the motor, by means of the capstan motor revolutions, changes the magnetic flux of the detector head core. Accordingly, the detector head coil works in the same way and generates AC Voltage (becomes the detector signal described below). When this detector signal voltage (e_i) becomes detector signal frequency (f_o), this adjusts the capstan motor revolutions proportionately. (See Figs. 21 & 22)

2. When the detector signal voltage generated from the detector head is about 3 mV (at 7-1/2 ips), because the level is low, the perpendicular (up and down) waveform is amplified by the AC Amplifier until the waveform is clipped. (See Fig. 21)

3. Discriminator Coil L-1 (V12031SC-01) and C-210 (0.051/50) at 7-1/2 ips (and C-211 (0.27/100) at 3-3/4 ips) constitute the resonance circuit, and this resonance frequency becomes f_r. Because the detector signal frequency generated at the detector coil differs according to capstan motor revolutions, the capacity of the discriminator resonance condenser changes, and the resonance frequency changes at the different tape speeds of 7-1/2 and 3-3/4 ips.

4. When the discriminator input frequency and the resonance frequency f_r are simultaneous, the DC signal to be supplied to the next stage DC Amplifier is not generated. Consequently, when the capstan motor rotates at normal speed, a higher than resonance frequency fr, detector signal. Signal frequency f_o is established.

5. As shown in Chart 4, when electric current is not flowing to the capstan motor servo coil, the capstan motor revolutions are far faster than normal revolutions. Consequently, in order to maintain normal revolutions, an electro-magnetic field is generated at the servo coil by means of collector current flowing to TR-209 (2SD234), and this serves as an electro-magnetic brake. This electro-magnetic brake and the load torque balances the capstan motor torque and normal revolutions are maintained.

TAPE SPEED	Capstan motor supply voltage	Capstan motor supply voltage at FWD or REV starting time	Voltage and frequency generated at the detector coil	Controlled capstan motor speed	Uncontrolled capstan motor speed
7-1/2 ips	110V	150V	3 mV ± 0.5 mV r.m.s. / 1040 Hz	520 r.p.m.	1420r.p.m.
3-3/4 ips	85V	110V	1.5 mV ± 0.25 mV r.m.s. / 520 Hz	260 r.p.m.	1380r.p.m.

Chart 4

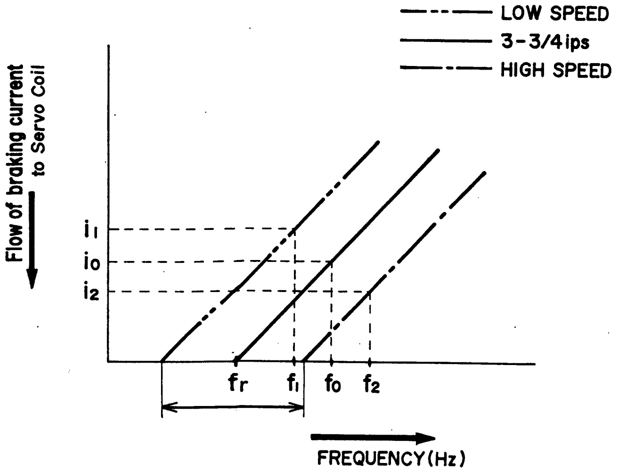


Fig. 23

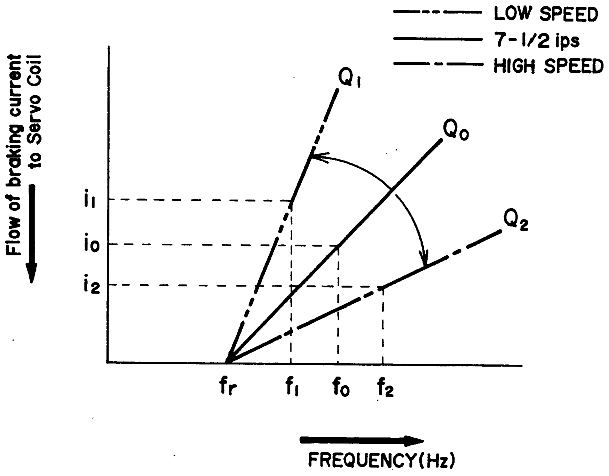


Fig. 24

6. In case of the capstan motor revolutions having reached the speed of n_2, the detector signal produced at the detector coil surpasses f_0 and advances toward the higher f_2 frequency. (See Figs. 23 & 24). Accordingly, the flow of current to the servo coil increases, and because the electro-magnetic braking supplied to the capstan motor is increased, the capstan motor revolutions become slower, and normal revolutions are regained.

7. In case of the capstan motor revolutions having slowed to n_1, the detector signal produced at the detector coil drops to lower than f_0 and descends toward the low f_1 frequency (See Figs. 23 & 24). Accordingly, the flow of current to the servo coil decreases, and because the electro-magnetic braking supplied to the capstan motor is decreased, the capstan motor revolutions speed up and normal revolutions are regained.

8. To obtain the proper number of revolutions, adjustment of the flow of brake current to the servo coil is necessary.

   1) At 3-3/4 ips tape speed
   As shown in Fig. 23, resonance frequency f_r (between the arrow mark) is changed by adjusting the dust core of discriminator coil L-1 (V1203 1SC-01). Accordingly, f_0 is also changed between f_1 and f_2, and the flow of braking current (i_0) to the servo coil is also changed between i_1 and i_2. Consequently, correct tape speed can be attained by using a tape speed measuring tape and a Frequency Counter and adjusting the dust core of coil L-1.

   2) At 7-1/2 ips tape speed
   As shown in Fig. 24, Q_0 of the resonance circuit (within the arrow mark with f_r as center frequency), is changed by adjusting discriminator semi-fixed resistor VR-202 (2k B). Therefore, f_0 is also changed between f_1 and f_2 and, the flow of current (i_0) to the servo coil is also changed between i_1 and i_2. Consequently, correct tape speed can be attained by using a tape speed measuring tape and a Frequency Counter and adjusting semi-fixed resistor VR-202.

IX. DIFFERENTIATION OF SYSTEM CONTROL SCHEMATIC DIAGRAM & P. C. BOARD

1. Because the System Control Schematic Diagram and the P.C. Board are differentiated by serial number, the following (Chart 5) is provided for reference.

Serial Number	Schematic Diagram No.	P.C. Board
# 70301-0001 to # 70809-2000	No. 3-3A	KH-1009A, B
from # 71011-0001	No. 3-3B	KH-1039A, B

Chart 5

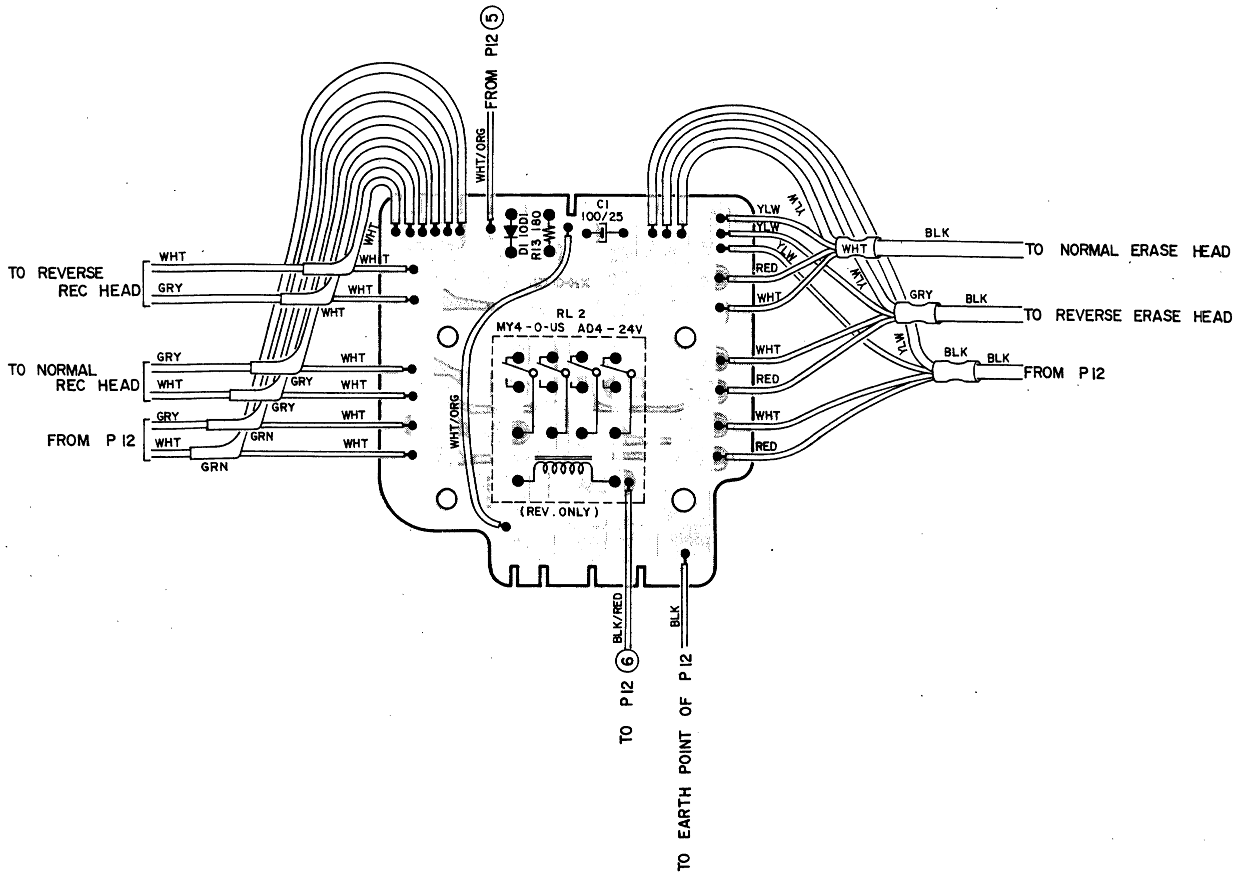
Accordingly, because System Control P.C. Board KH-1009A, B and KH-1039A, B are not interchangeable, when placing your order, be sure to state the System Control P.C. Board number.

2. When using a KH-1039A, B in a machine employing System Control P.C. Board KH-1009A, B, the following changes are also necessary.

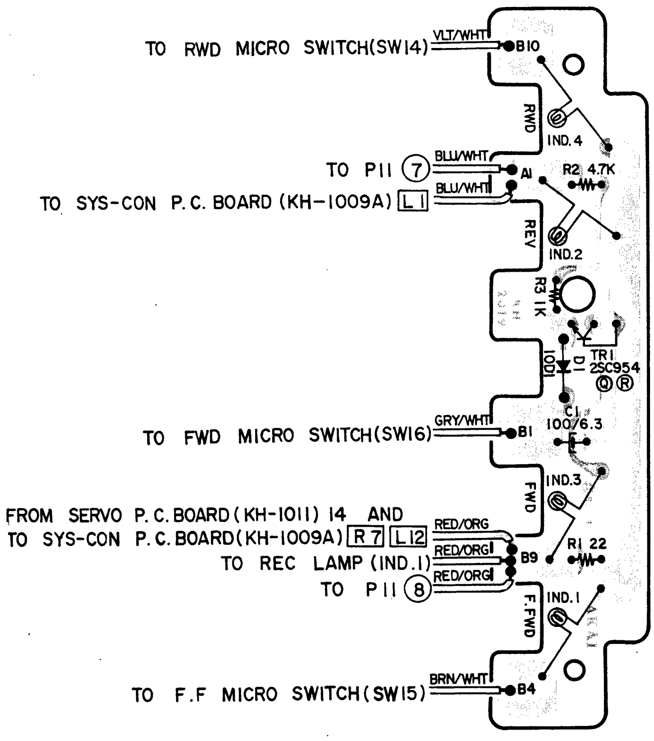
   1) Remove the lead wires connected to operation switches SW-14 (RWD), SW-15 (F.FWD), and SW-16 (FWD) from terminals (B1) (B4) and (B10) of the Operation Lamp P.C. Board.
   2) Remove the multi-socket terminal $\boxed{\text{L12}}$ lead wire connected to the System Control P.C. Board, and connect terminals $\boxed{\text{L12}}$ and (B1).
   3) Remove the multi-socket terminal $\boxed{\text{R8}}$ lead wire connected to the System Control P.C. Board, and connect terminals $\boxed{\text{R8}}$ and (B4).
   4) Remove the multi-socket terminal $\boxed{\text{R2}}$ lead wire and connect terminals $\boxed{\text{R2}}$ and (B10).
   5) Disconnect the various inner components (resistor, capacitor, diode, and transistor) of the Operation Lamp P.C. Board and directly connect Lamps IND-1 through IND-4.

X. COMPOSITE VIEWS OF COMPONENTS

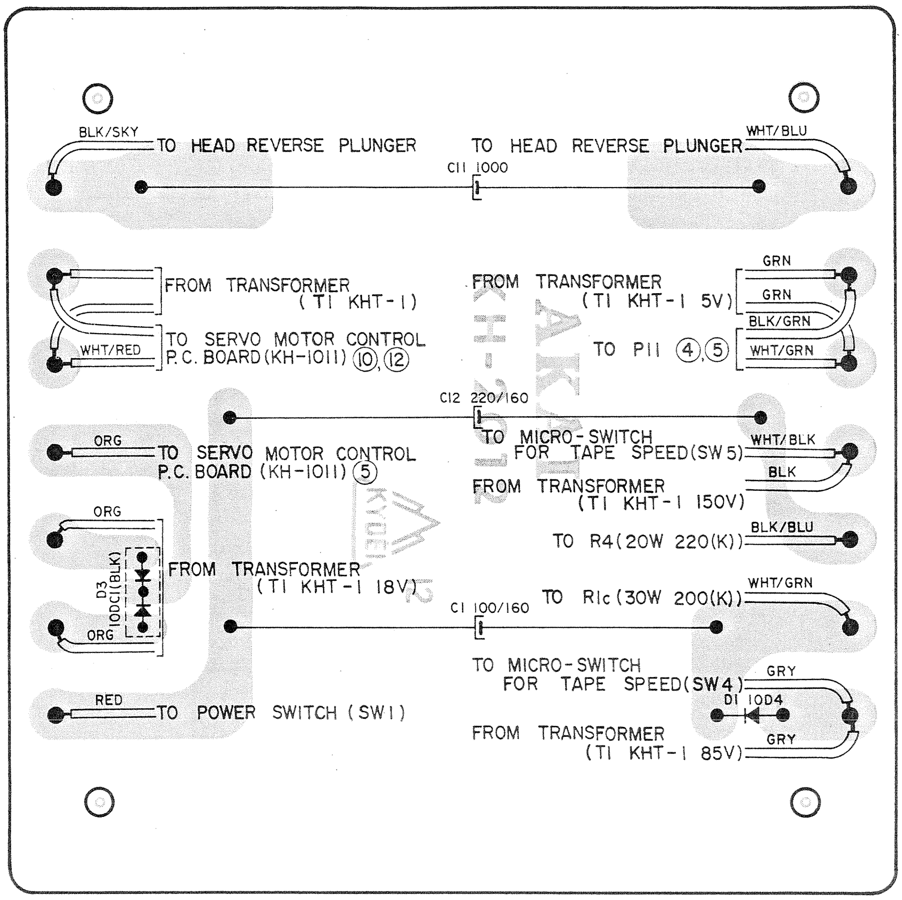
HEAD RELAY P.C. BOARD (KH-0029)


FROM P12 ⑤
WHT/ORG
C1
100/25
D1 10D1
R13 180
TO REVERSE
REC HEAD
WHT
GRY
WHT
WHT
WHT
TO NORMAL
REC HEAD
GRY
WHT
GRY
WHT
WHT
FROM P 12
GRY
WHT
GRY
GRN
WHT
WHT
GRN
RL 2
MY4-0-US AD4-24V
(REV. ONLY)
WHT/ORG
YLW
YLW
YLW
YLW
YLW
RED
WHT
WHT
RED
WHT
RED
BLK
WHT
TO NORMAL ERASE HEAD
GRY
BLK
TO REVERSE ERASE HEAD
BLK
BLK
FROM P12
BLK/RED
TO P12 ⑥
BLK
TO EARTH POINT OF P 12

OPERATION LAMP P.C. BOARD (KH-2019)

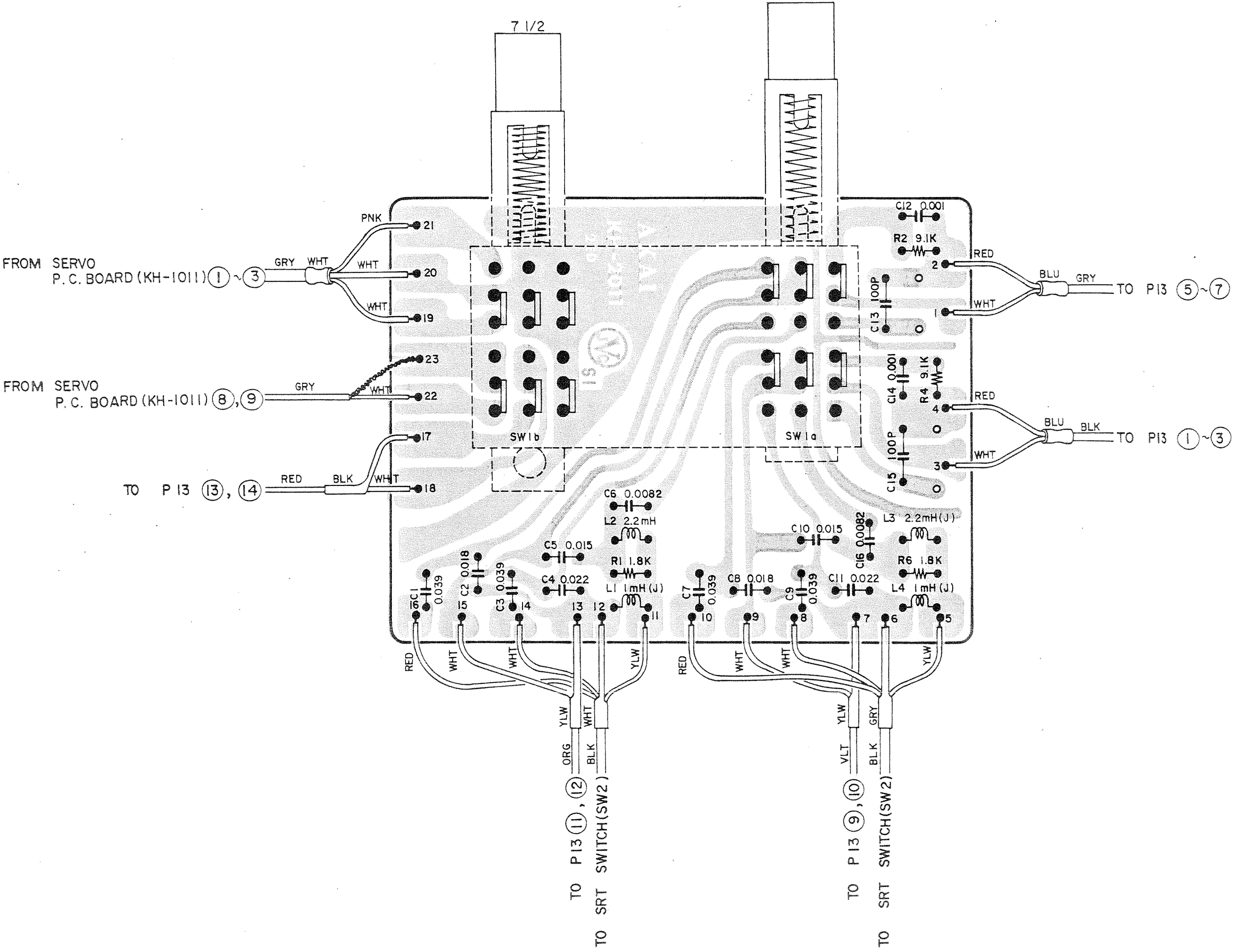

TO RWD MICRO SWITCH(SW14)
VLT/WHT
B10
RWD
IND.4
TO P11 ⑦
BLU/WHT
BLU/WHT
A1
R2 4.7K
TO SYS-CON P.C. BOARD (KH-1009A) L1
REV
IND.2
R3 1K
TR1
2SC954
Ⓠ Ⓡ
D1
10D1
C1
100/6.3
TO FWD MICRO SWITCH(SW16)
GRY/WHT
B1
FWD
IND.3
FROM SERVO P.C. BOARD (KH-1011) 14 AND
TO SYS-CON P.C. BOARD(KH-1009A) R7 L12
RED/ORG
TO REC LAMP (IND.1)
RED/ORG
TO P11 ⑧
RED/ORG
B9
R1 22
F.FWD
IND.1
TO F.F MICRO SWITCH(SW15)
BRN/WHT
B4

CAPACITOR P.C. BOARD (KH-2012)



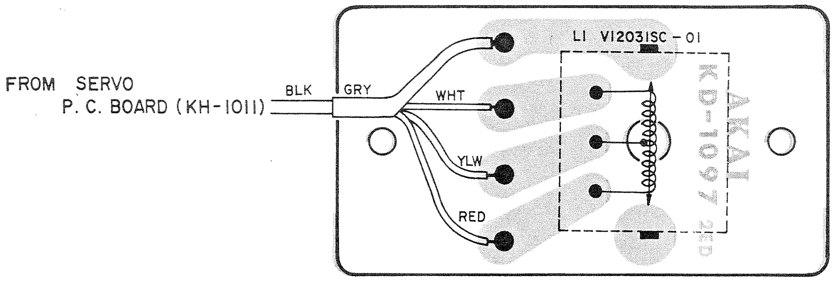
BLK/SKY
TO HEAD REVERSE PLUNGER
TO HEAD REVERSE PLUNGER
WHT/BLU
C11 1000
FROM TRANSFORMER (T1 KHT-1)
TO SERVO MOTOR CONTROL P.C. BOARD (KH-1011) ⑩, ⑫
WHT/RED
FROM TRANSFORMER (T1 KHT-1 5V)
GRN
GRN
BLK/GRN
TO P11 ④, ⑤
WHT/GRN
C12 220/160
ORG
TO SERVO MOTOR CONTROL P.C. BOARD (KH-1011) ⑤
TO MICRO-SWITCH FOR TAPE SPEED (SW5)
WHT/BLK
BLK
FROM TRANSFORMER (T1 KHT-1 150V)
ORG
D3 10DC1(BLK)
FROM TRANSFORMER (T1 KHT-1 18V)
TO R4 (20W 220(K))
BLK/BLU
ORG
C1 100/160
TO R1c (30W 200(K))
WHT/GRN
TO MICRO-SWITCH FOR TAPE SPEED (SW4)
GRY
D1 10D4
RED
TO POWER SWITCH (SW1)
FROM TRANSFORMER (T1 KHT-1 85V)
GRY
AKAI
KH-2012
KYOEI

TAPE SPEED SWITCH P.C. BOARD (KH-2011)



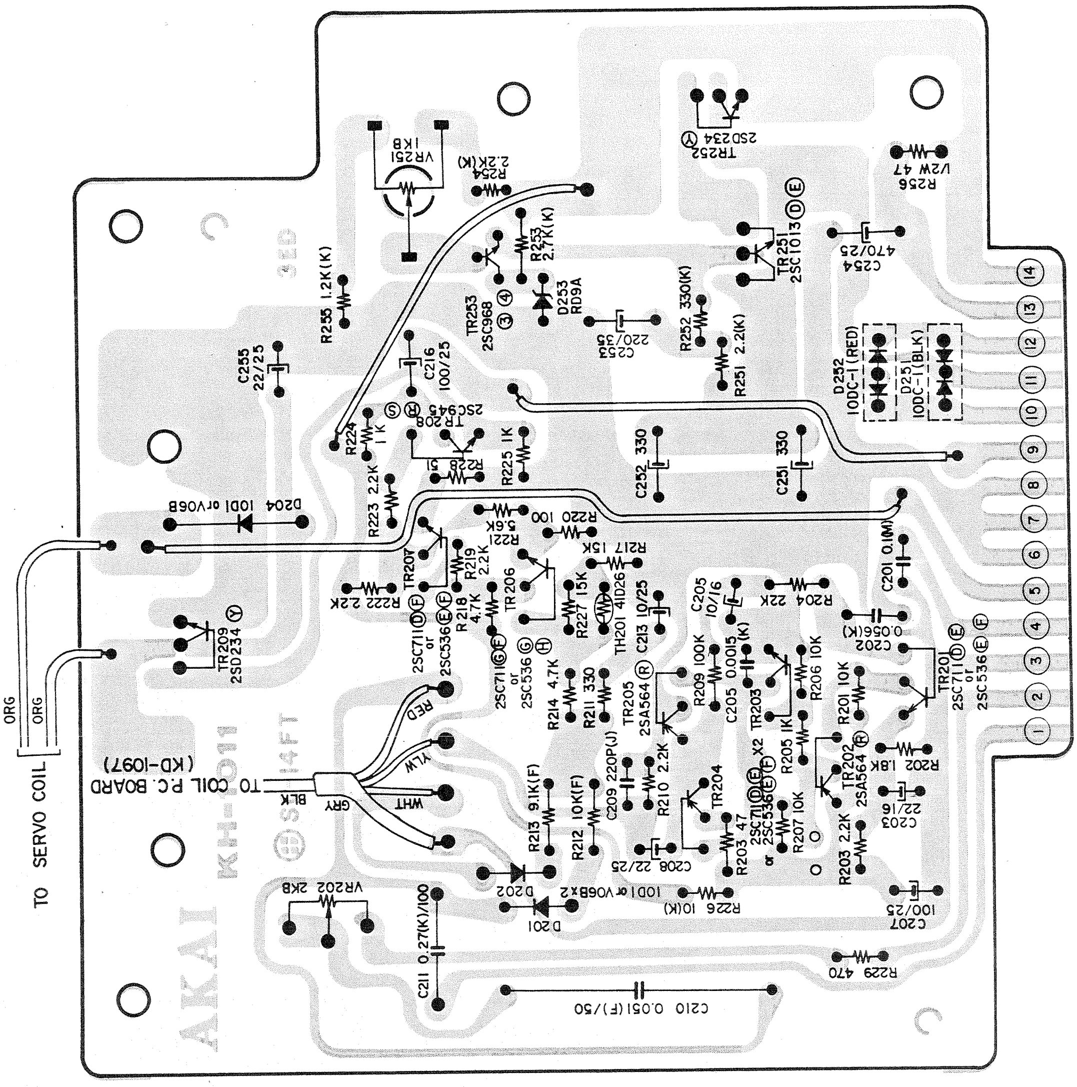
7 1/2
3 3/4
AKAI
KH-2011
SW1b
SW1a
PNK
21
FROM SERVO
P. C. BOARD (KH-1011) ①~③
GRY
WHT
WHT
20
WHT
19
23
FROM SERVO
P. C. BOARD (KH-1011) ⑧, ⑨
GRY
WHT
22
17
TO P 13 ⑬, ⑭
RED
BLK
WHT
18
C12 0.001
R2 9.1K
2
RED
BLU
GRY
TO P13 ⑤~⑦
C13 100P
1
WHT
C14 0.001
R4 9.1K
4
RED
BLU
BLK
TO P13 ①~③
C15 100P
3
WHT
C6 0.0082
L2 2.2mH
C5 0.015
R1 1.8K
C4 0.022
L1 1mH (J)
C1 0.039
C2 0.018
C3 0.039
16
15
14
13
12
11
C10 0.015
C16 0.0082
L3 2.2mH (J)
R6 1.8K
C7 0.039
C8 0.018
C9 0.039
C11 0.022
L4 1mH (J)
10
9
8
7
6
5
RED
WHT
WHT
YLW
RED
WHT
WHT
YLW
YLW
WHT
ORG
BLK
YLW
GRY
VLT
BLK
TO P 13 ⑪, ⑫
TO SRT SWITCH (SW2)
TO P 13 ⑨, ⑩
TO SRT SWITCH (SW2)

COIL P.C. BOARD (KD-1097 2ED)

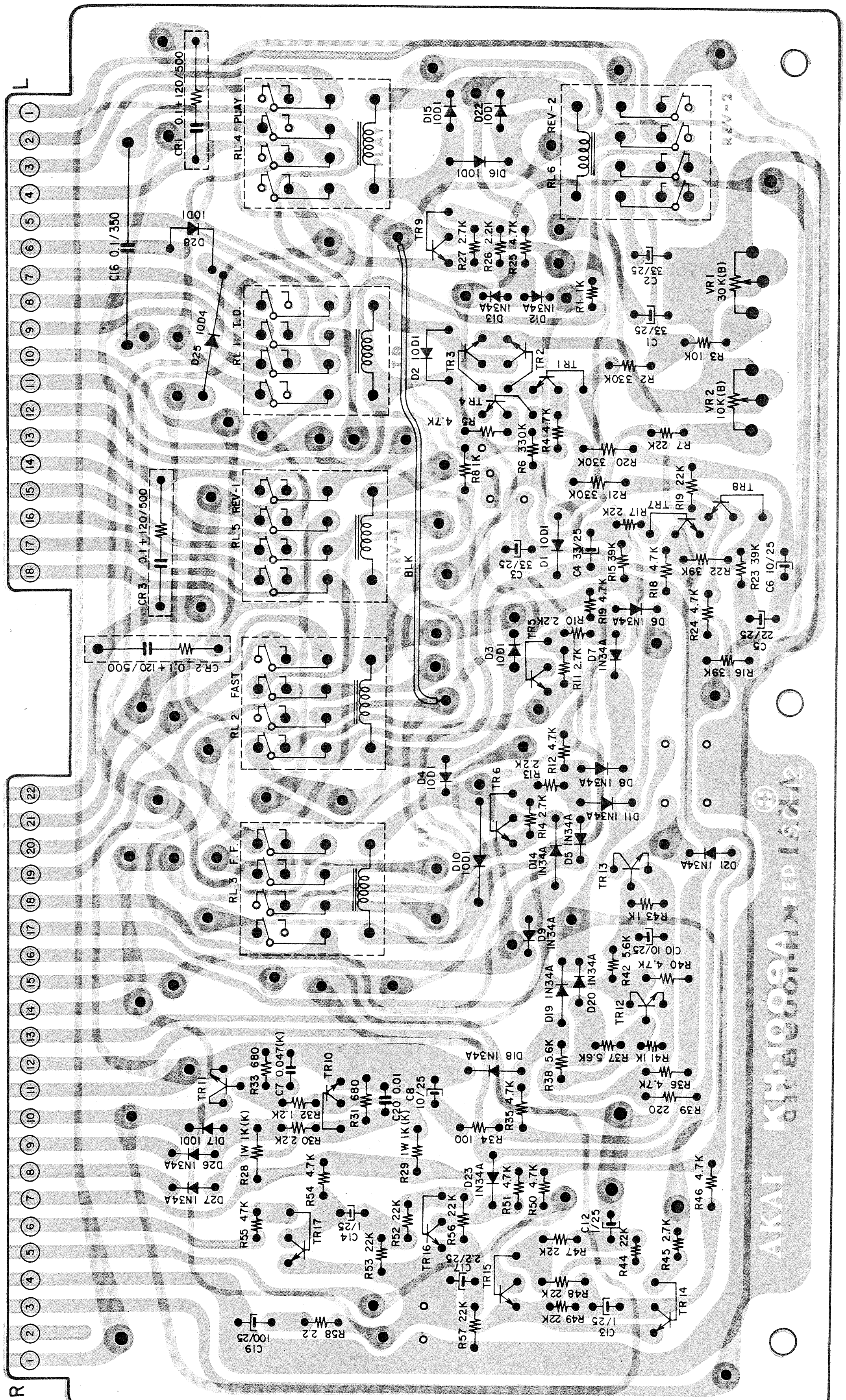


FROM SERVO
P. C. BOARD (KH-1011)
BLK
GRY
WHT
YLW
RED
L1 V12031SC - 01
AKAI
KD-1097 2ED

SERVO P.C. BOARD (KH-1011)


TO SERVO COIL
ORG
ORG
TO COIL P.C. BOARD (KD-1097)
BLK
GRY
WHT
YLW
RED
AKAI KH-1011
VR251 1KB
R254 2.2K(K)
R253 2.7K(K)
D253 RD9A
TR253 2SC968 ③ ④
R255 1.2K(K)
C255 22/25
C216 100/25
TR208 2SC945 Ⓡ Ⓢ
R224 1K
R228 51
R223 2.2K
R225 1K
D204 10D1 or V06B
TR207 2SC711 Ⓓ Ⓕ or 2SC536 Ⓔ Ⓕ
R222 2.2K
R218 4.7K
R219 2.2K
R221 5.6K
R220 100
TR206 2SC711 Ⓖ Ⓕ or 2SC536 Ⓖ Ⓗ
R217 15K
R227 15K
TH201 41D26
C213 10/25
C205 10/16
TR209 2SD234 Ⓨ
R214 4.7K
R211 330
TR205 2SA564 Ⓡ
R209 100K
C205 0.0015(K)
TR203
R206 10K
R205 1K
R204 22K
C201 0.1(M)
C202 0.056(K)
R201 10K
TR201 2SC711 Ⓓ Ⓔ or 2SC536 Ⓔ Ⓕ
R202 1.8K
TR202 2SA564 Ⓡ
C203 22/16
R203 2.2K
R207 10K
TR204 2SC711 Ⓓ Ⓕ x2 or 2SC536 Ⓔ Ⓕ
R203 47
R210 2.2K
C209 220P(J)
R213 9.1K(F)
R212 10K(F)
C208 22/25
D202
D201
10D1 or V06Bx2
R226 10(K)
VR202 2KB
C211 0.27(K)/100
C210 0.051(F)/50
C207 100/25
R229 470
C252 330
C251 330
C253 220/35
R252 330(K)
R251 2.2(K)
TR252 2SD234 Ⓨ
TR251 2SC1013 Ⓓ Ⓔ
R256 1/2W 47
C254 470/25
D252 10DC-1 (RED)
D251 10DC-1 (BLK)
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭

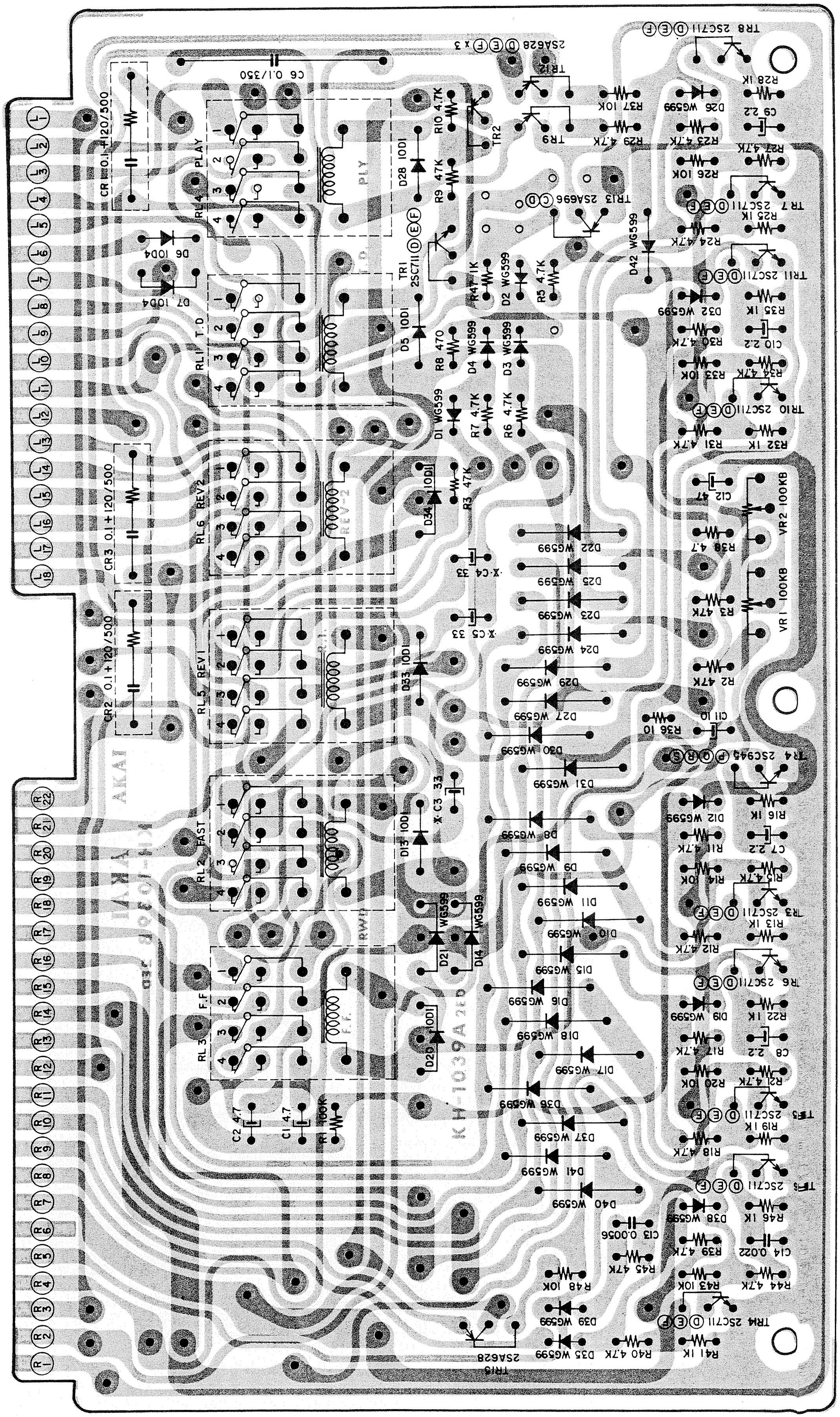
SYSTEM CONTROL P.C. BOARD (KH-1009)


L
R
RL4 PLAY
RL6 REV-2
RL1 T.D.
RL5 REV-1
RL2 FAST
RL3 F.F.
CR1 0.1+120/500
CR2 0.1+120/500
CR3 0.1+120/500
C16 0.1/350
D28 10D1
D25 10D4
D15 10D1
D22 10D1
D16 10D1
TR9
R27 2.7K
R26 2.2K
R25 4.7K
D13 IN34A
D12 IN34A
R11 1K
C2 33/25
C1 33/25
VR1 30K(B)
R3 10K
VR2 10K(B)
R2 330K
TR1
TR2
TR3
TR4
D2 10D1
R5 4.7K
R4 4.7K
R6 330K
R8 1K
R7 22K
R20 330K
R21 330K
R19 22K
TR7
TR8
R17 22K
C3 33/25
D1 10D1
C4 33/25
R15 39K
R18 4.7K
R22 39K
R23 39K
C6 10/25
R10 2.2K
R9 4.7K
D6 IN34A
R24 4.7K
C5 22/25
R16 39K
BLK
D3 10D1
TR5
R11 2.7K
D7 IN34A
D4 10D1
TR6
R13 2.2K
R12 4.7K
D8 IN34A
R14 2.7K
D11 IN34A
D5 IN34A
D14 IN34A
D10 10D1
TR13
D21 IN34A
R43 1K
D9 IN34A
C10 10/25
R42 5.6K
R40 4.7K
D19 IN34A
D20 IN34A
TR12
R41 1K
R37 5.6K
R38 5.6K
D18 IN34A
R36 4.7K
R39 220
R35 4.7K
R34 100
TR11
R33 680
C7 0.047(K)
TR10
R32 1.2K
R31 680
C20 0.01
C8 10/25
D17 10D1
R30 2.2K
D26 IN34A
R28 1W 1K(K)
R29 1W 1K(K)
D27 IN34A
R54 4.7K
D23 IN34A
R51 4.7K
R50 4.7K
R46 4.7K
R55 47K
TR17
C14 1/25
R52 22K
R56 22K
TR16
C12 1/25
R47 22K
R44 22K
R45 2.7K
R53 22K
C17 2.2/25
TR15
R48 22K
TR14
C19 100/25
R58 2.2
R57 22K
R49 22K
C13 1/25
AKAI KH-1009A

RL1 to 6 : MY4-0-US-AD4 DC24V

TR1 to 10, TR14 to 17 ..... 2SC945 Ⓠ Ⓡ TR11 to 13 ..... 2SC968 ③

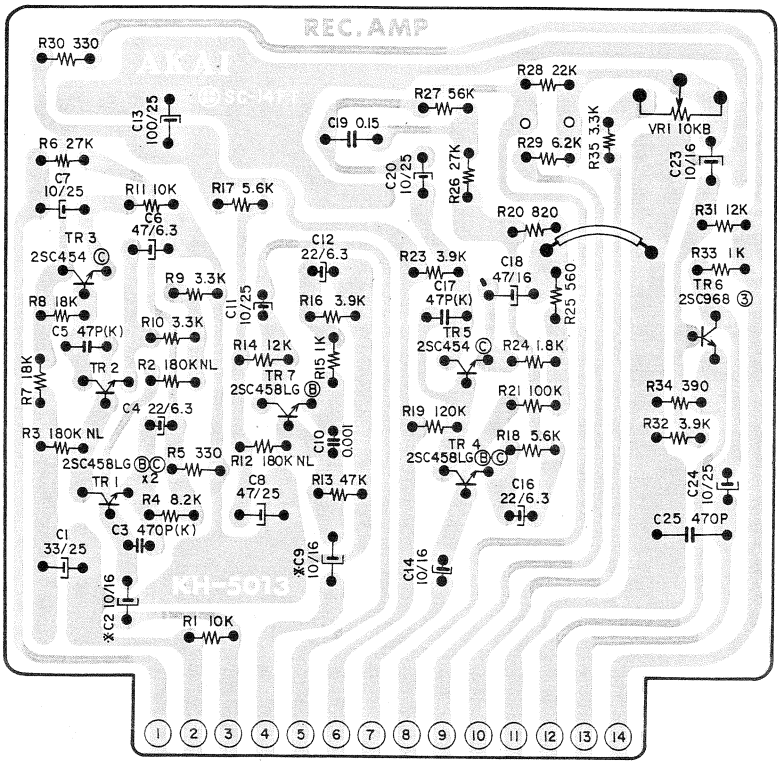
SYSTEM CONTROL P.C. BOARD (KH-1039)



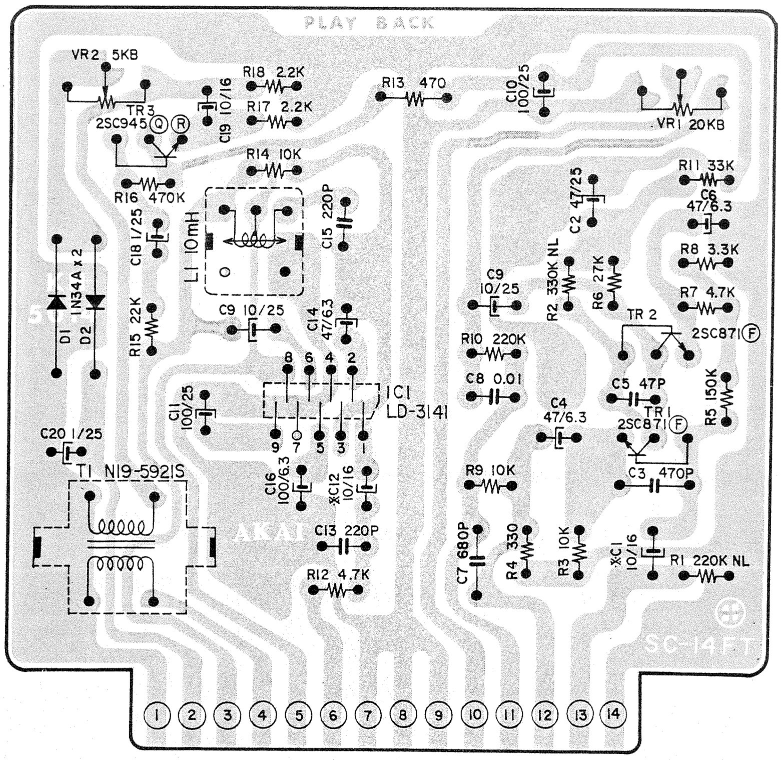
CR 0.1+120/500
CR3 0.1+120/500
CR2 0.1+120/500
C6 0.1/350
RL4 PLAY
RL1 T.D
RL6 REV2
RL5 REV1
RL2 FAST
RL3 F.F
PLY
REV-2
RWD
F.F.
D6 10D4
D7 10D4
D28 10D1
D5 10D1
D34 10D1
D33 10D1
D13 10D1
D20 10D1
D21 WG599
D14 WG599
TR1 2SC711 D E F
TR2
TR9
TR12
2SA628 D E F x 3
TR13 2SA696 C D
TR8 2SC711 D E F
TR7 2SC711 D E F
TR11 2SC711 D E F
TR10 2SC711 D E F
TR4 2SC945 P Q R S
TR3 2SC711 D E F
TR6 2SC711 D E F
TR5 2SC711 D E F
TR6 2SC711 D E F
TR14 2SC711 D E F
TR15 2SA628
R10 4.7K
R9 47K
R47 1K
R5 4.7K
R8 470
R7 4.7K
R6 4.7K
R3 47K
D1 WG599
D2 WG599
D3 WG599
D4 WG599
D42 WG599
X C4 33
X C5 33
X C3 33
C2 47
C1 47
R1 100K
VR2 100KB
VR1 100KB
C12 47
C11 10
R36 10
AKAI
KH-1039A 2ED
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16 L17 L18
R22 R21 R20 R19 R18 R17 R16 R15 R14 R13 R12 R11 R10 R9 R8 R7 R6 R5 R4 R3 R2 R1

RL1 to 6 : MY4-0-US-AD4 DC 24V

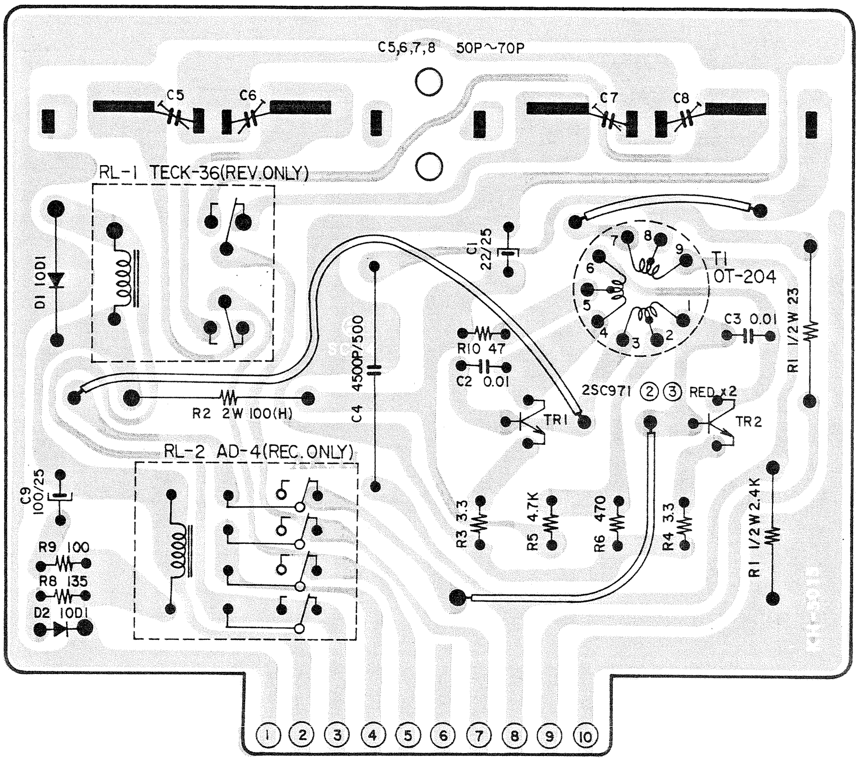
REC. AMP. P.C. BOARD (KH-5013)


REC. AMP
AKAI
SC-14FT
KH-5013
R30 330
R6 27K
C7 10/25
C13 100/25
R11 10K
C6 47/6.3
R17 5.6K
C19 0.15
R27 56K
R28 22K
R29 6.2K
R35 3.3K
VR1 10KB
C23 10/16
C20 10/25
R26 27K
R20 820
R31 12K
R33 1K
TR6 2SC968 ③
TR3 2SC454 ©
R8 18K
C5 47P(K)
R9 3.3K
R10 3.3K
C11 10/25
C12 22/6.3
R16 3.9K
R14 12K
R15 1K
R23 3.9K
C17 47P(K)
C18 47/16
R25 560
TR5 2SC454 ©
R24 1.8K
R7 18K
TR 2
R2 180K NL
C4 22/6.3
TR 7 2SC458LG Ⓑ
C10 0.001
R21 100K
R19 120K
R34 390
R32 3.9K
R3 180K NL
R5 330
R12 180K NL
TR 4 2SC458LG ⒷⒸ
R18 5.6K
2SC458LG ⒷⒸ x2
TR 1
R4 8.2K
C8 47/25
R13 47K
C16 22/6.3
C24 10/25
C3 470P(K)
C1 33/25
C25 470P
※C9 10/16
C14 10/16
※C2 10/16
R1 10K
1
2
3
4
5
6
7
8
9
10
11
12
13
14

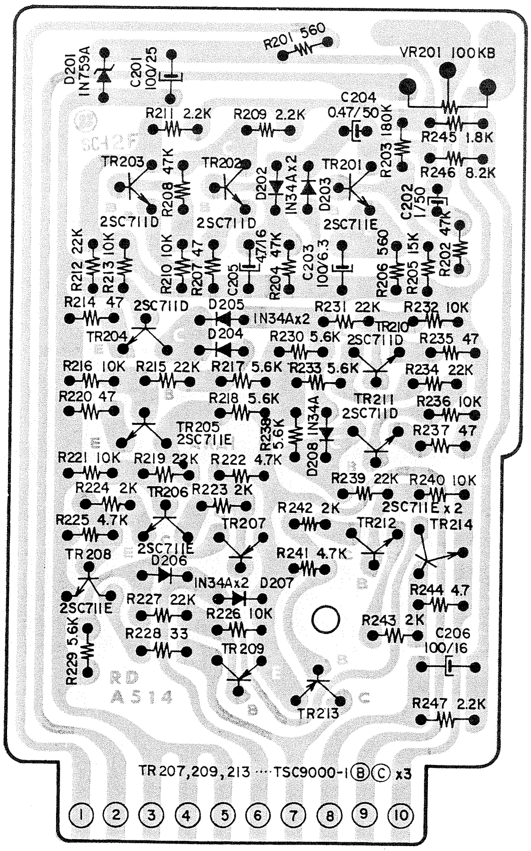
P.B. AMP P.C. BOARD (KH-5014)


PLAY BACK
VR2 5KB
TR3 2SC945 Ⓠ Ⓡ
R18 2.2K
R17 2.2K
C19 10/16
R13 470
C10 100/25
VR1 20KB
R14 10K
R16 470K
R11 33K
C6 47/6.3
C2 47/25
C18 1/25
L1 10mH
C15 220P
R8 3.3K
D1 D2 1N34A x2
R2 330K NL
R6 27K
C9 10/25
R7 4.7K
TR 2
2SC871 Ⓕ
R15 22K
C9 10/25
C14 47/6.3
R10 220K
8 6 4 2
C8 0.01
IC1 LD-3141
C5 47P
R5 150K
C4 47/6.3
TR1 2SC871 Ⓕ
C11 100/25
9 7 5 3 1
C20 1/25
T1 N19-5921S
C16 100/6.3
※C12 10/16
R9 10K
C3 470P
AKAI
C13 220P
C7 680P
R4 330
R3 10K
※C1 10/16
R1 220K NL
R12 4.7K
SC-14FT
1
2
3
4
5
6
7
8
9
10
11
12
13
14

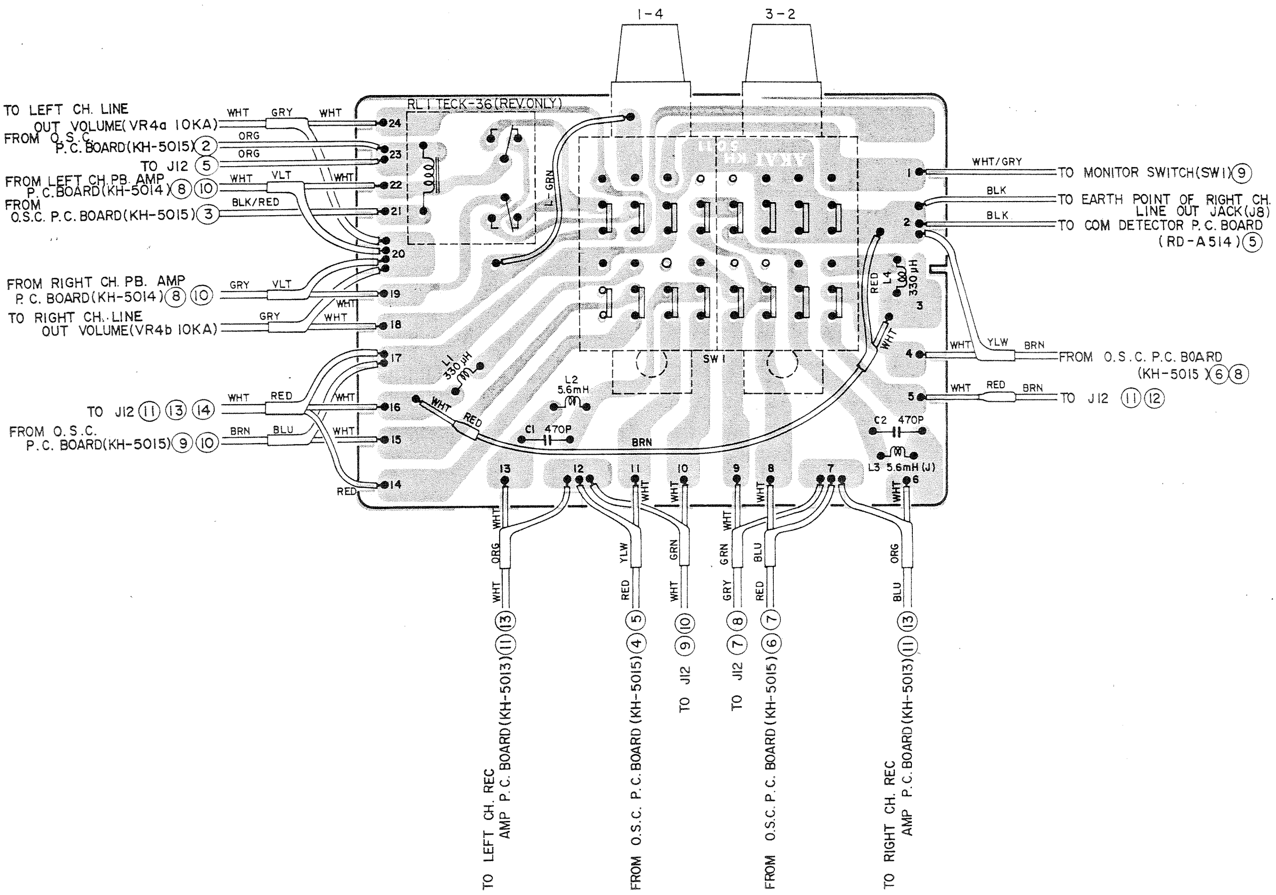
OSC. P.C.


C5,6,7,8 50P~70P
C5
C6
C7
C8
RL-1 TECK-36(REV.ONLY)
D1 10D1
C1 22/25
T1 OT-204
C3 0.01
R1 1/2W 23
R10 47
C2 0.01
C4 4500P/500
R2 2W 100(H)
2SC971 ②③ RED x2
TR1
TR2
RL-2 AD-4(REC.ONLY)
C9 100/25
R9 100
R8 135
D2 10D1
R3 3.3
R5 4.7K
R6 470
R4 3.3
R1 1/2W 2.4K
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

COM DETECTOR P.C. BOARD (RD-A514)

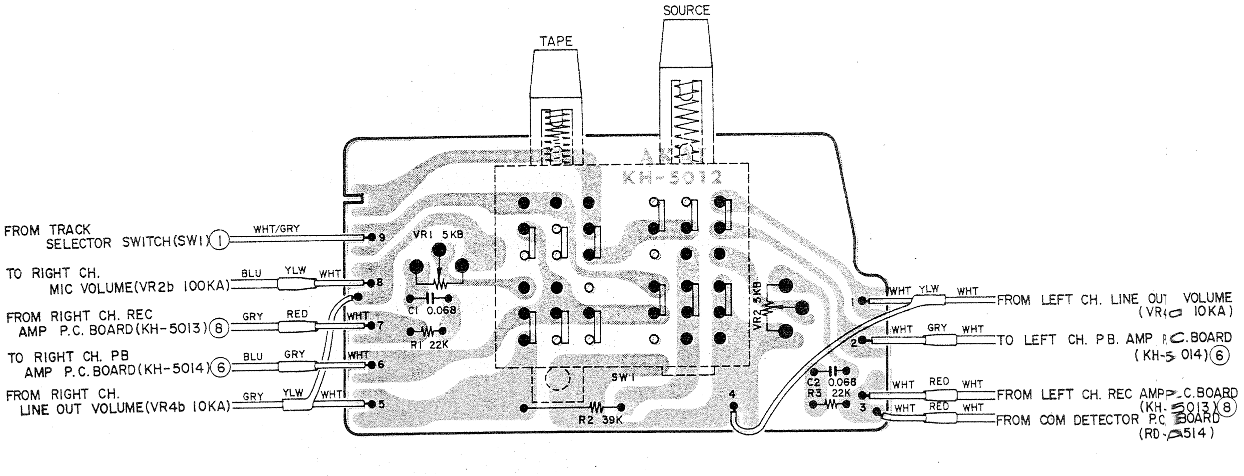

R201 560
VR201 100KB
D201 IN759A
C201 100/25
R211 2.2K
R209 2.2K
C204 0.47/50
R203 180K
R245 1.8K
R246 8.2K
TR203
R208 47K
TR202
D202
IN34Ax2
D203
TR201
2SC711D
2SC711D
2SC711E
C202 1/50
R202 47K
R212 22K
R213 10K
R210 10K
R207 47
C205 47/16
R204 47K
C203 100/6.3
R206 560
R205 15K
R214 47
2SC711D
D205
IN34Ax2
R231 22K
R232 10K
TR210
TR204
D204
R230 5.6K
2SC711D
R235 47
R216 10K
R215 22K
R217 5.6K
R233 5.6K
R234 22K
R220 47
R218 5.6K
TR211
R236 10K
TR205
2SC711E
R238 5.6K
D208 IN34A
2SC711D
R237 47
R221 10K
R219 22K
R222 4.7K
R224 2K
TR206
R223 2K
R239 22K
R240 10K
R225 4.7K
R242 2K
2SC711E x2
TR207
TR212
TR214
TR208
2SC711E
D206
R241 4.7K
IN34Ax2
D207
R244 4.7
2SC711E
R227 22K
R226 10K
R243 2K
R229 5.6K
R228 33
C206 100/16
TR209
RD A514
TR213
R247 2.2K
TR207,209,213 ····TSC9000-1 Ⓑ Ⓒ x3
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

TRACK SELECTOR P.C. BOARD (KH-5011)



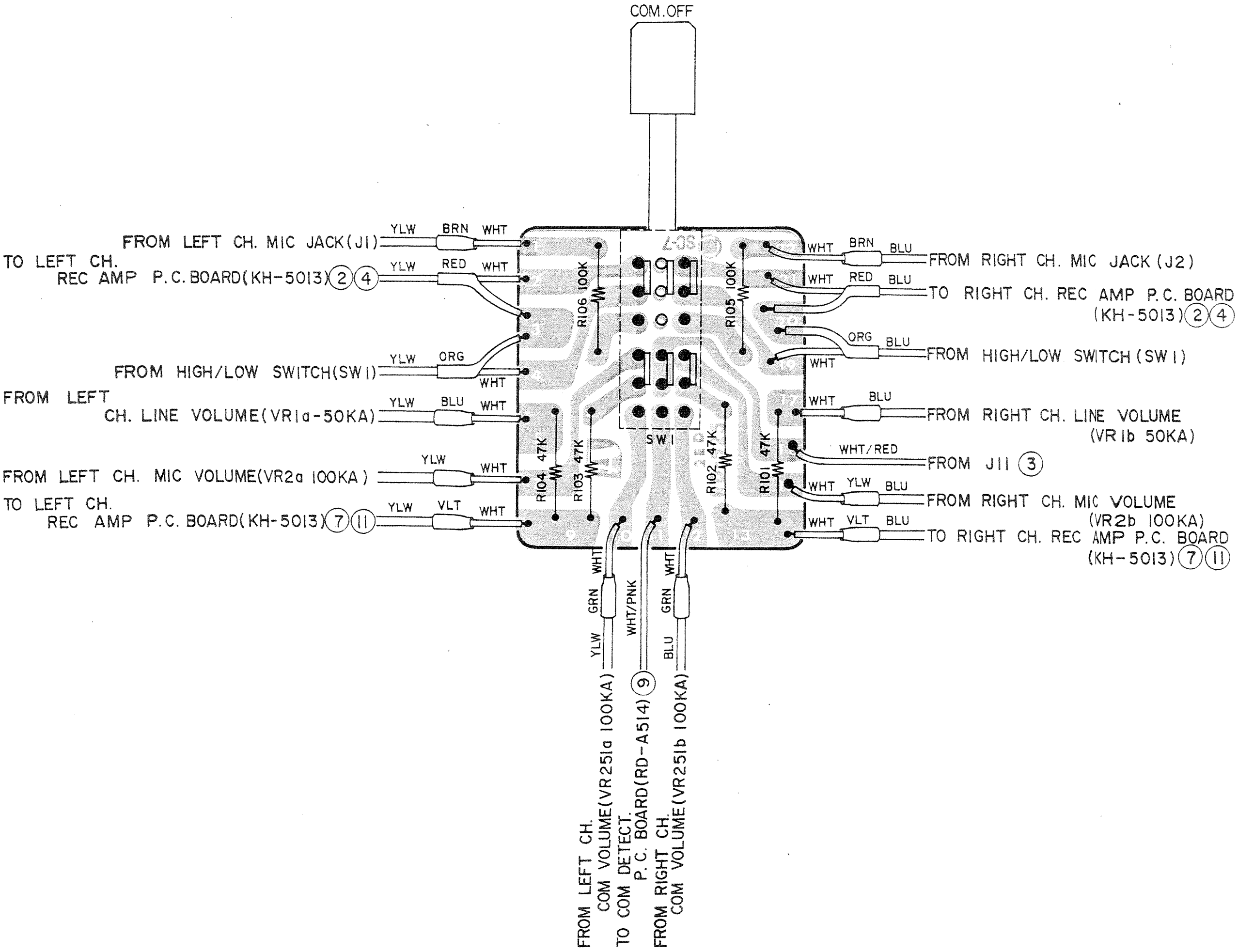
1-4
3-2
RL1 TECK-36 (REV.ONLY)
TO LEFT CH. LINE OUT VOLUME(VR4a 10KA)
WHT GRY WHT
FROM O.S.C. P.C. BOARD(KH-5015)②
ORG
TO J12 ⑤
ORG
FROM LEFT CH.PB. AMP P.C.BOARD(KH-5014)⑧⑩
WHT VLT WHT
FROM O.S.C. P.C. BOARD(KH-5015)③
BLK/RED
24
23
22
21
20
FROM RIGHT CH. PB. AMP P. C. BOARD(KH-5014)⑧⑩
GRY VLT
19
WHT
TO RIGHT CH. LINE OUT VOLUME(VR4b 10KA)
GRY WHT
18
17
TO J12 ⑪⑬⑭
WHT RED WHT
16
FROM O.S.C. P.C. BOARD(KH-5015)⑨⑩
BRN BLU WHT
15
RED
14
L-GRN
L1 330μH
L2 5.6mH
C1 470P
WHT
RED
BRN
SW1
1
WHT/GRY
TO MONITOR SWITCH(SW1)⑨
BLK
TO EARTH POINT OF RIGHT CH. LINE OUT JACK(J8)
2
BLK
TO COM DETECTOR P.C. BOARD (RD-A514)⑤
RED
L4 330μH
3
WHT
4
WHT YLW BRN
FROM O.S.C. P.C. BOARD (KH-5015)⑥⑧
5
WHT RED BRN
TO J12 ⑪⑫
C2 470P
L3 5.6mH (J)
6
13 12 11 10 9 8 7
WHT ORG WHT
TO LEFT CH. REC AMP P.C. BOARD(KH-5013)⑪⑬
WHT YLW RED
FROM O.S.C. P.C.BOARD(KH-5015)④⑤
WHT GRN WHT
TO J12 ⑨⑩
WHT GRN GRY
TO J12 ⑦⑧
WHT BLU RED
FROM O.S.C. P.C. BOARD(KH-5015)⑥⑦
WHT ORG BLU
TO RIGHT CH. REC AMP P.C. BOARD(KH-5013)⑪⑬

MONITOR SWITCH P.C. BOARD (KH-5012)

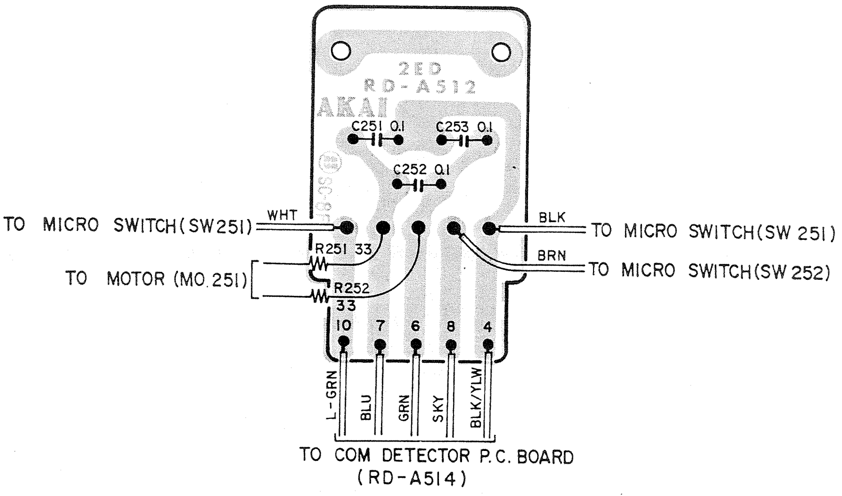


TAPE
SOURCE
AKAI
KH-5012
FROM TRACK SELECTOR SWITCH(SW1)①
WHT/GRY
9
TO RIGHT CH. MIC VOLUME(VR2b 100KA)
BLU YLW WHT
8
FROM RIGHT CH. REC AMP P.C. BOARD(KH-5013)⑧
GRY RED WHT
7
TO RIGHT CH. PB AMP P.C.BOARD(KH-5014)⑥
BLU GRY WHT
6
FROM RIGHT CH. LINE OUT VOLUME(VR4b 10KA)
GRY YLW WHT
5
VR1 5KB
C1 0.068
R1 22K
SW1
R2 39K
VR2 5KB
C2 0.068
R3 22K
4
1
WHT YLW WHT
FROM LEFT CH. LINE OUT VOLUME (VR4a 10KA)
2
WHT GRY WHT
TO LEFT CH. PB. AMP P.C.BOARD (KH-5014)⑥
WHT RED WHT
FROM LEFT CH. REC AMP P.C.BOARD (KH-5013)⑧
3
WHT RED WHT
FROM COM DETECTOR P.C. BOARD (RD-A514)

COM SWITCH P.C. BOARD (RD-525 2ED)


COM.OFF
FROM LEFT CH. MIC JACK(J1)
TO LEFT CH. REC AMP P.C. BOARD(KH-5013)②④
FROM HIGH/LOW SWITCH(SW1)
FROM LEFT CH. LINE VOLUME(VR1a-50KA)
FROM LEFT CH. MIC VOLUME(VR2a 100KA)
TO LEFT CH. REC AMP P.C. BOARD(KH-5013)⑦⑪
YLW
BRN
WHT
RED
ORG
BLU
VLT
SC-7
R106 100K
R105 100K
R104 47K
R103 47K
R102 47K
R101 47K
SW1
2ED
FROM RIGHT CH. MIC JACK (J2)
TO RIGHT CH. REC AMP P.C. BOARD (KH-5013)②④
FROM HIGH/LOW SWITCH (SW1)
FROM RIGHT CH. LINE VOLUME (VR1b 50KA)
WHT/RED
FROM J11 ③
FROM RIGHT CH. MIC VOLUME (VR2b 100KA)
TO RIGHT CH. REC AMP P.C. BOARD (KH-5013)⑦⑪
GRN
WHT/PNK
FROM LEFT CH. COM VOLUME(VR251a 100KA)
TO COM DETECT. P.C. BOARD(RD-A514)⑨
FROM RIGHT CH. COM VOLUME(VR251b 100KA)

TERMINAL P.C. BOARD (RD-A512 2ED)


2ED
RD-A512
AKAI
C251 0.1
C253 0.1
C252 0.1
TO MICRO SWITCH(SW251)
WHT
R251 33
TO MOTOR (MO.251)
R252 33
BLK
TO MICRO SWITCH(SW 251)
BRN
TO MICRO SWITCH(SW 252)
10
7
6
8
4
L-GRN
BLU
GRN
SKY
BLK/YLW
TO COM DETECTOR P.C. BOARD (RD-A514)

SECTION 2

PARTS LIST

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FIG. 20 COM MECHANISM BLOCK 73
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FIG. 22 FINAL ASSEMBLY BLOCK 76
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HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read List

The reference number corresponds with illustration or photo number of that particular parts list.

This number corresponds with the Figure Number.

This number corresponds with the individual parts index number in that figure.

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

12-115x

Schematic Diagram Number of individual manufactured part. (not required for parts order)

Quantity of particular part required.

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
		FLYWHEEL BLOCK #13		
12-115x	800425	Flywheel Block Assy. Comp.	RDG #13	1
12-116	244506	Flywheel Only	RD-233	1
12-117x	244754	Felt, Flywheel	RD-275	1
12-118	251324	Main Metal Case	RD-236	1
12-119	253080	Main Metal	RD-237	1

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of components of the Schematic Diagram or Service Manual.
5. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts List Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.

   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

ELECTRICAL PARTS LIST TABLE

ELECTRICAL PARTS LIST TABLE
Because the indication of resistors and capacitors in the P.C. Board photos are being eliminated, please confirm parts name and shape by comparing them with the parts shown in this table.

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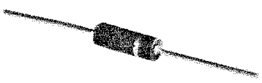

Solid Resistor

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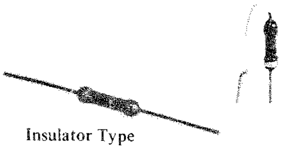

Carbon Resistor

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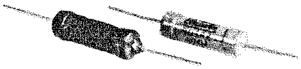

Metal Oxide Film Resistor

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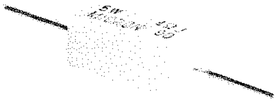

Cement Resistor

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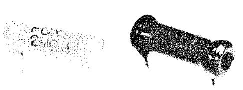

Wire-Wound Resistor

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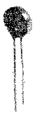

Thermistor

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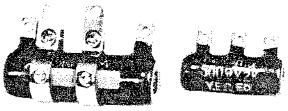

Enamel Resistor

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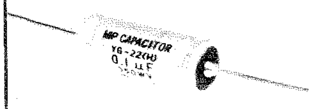
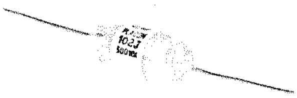


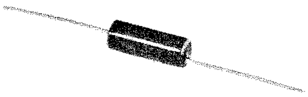
MP Capacitor (Tubler Type)

2



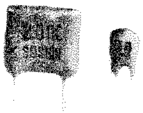
Plastic Capacitor

3



Mylar Capacitor

4



VFM (Hi-Q) Capacitor

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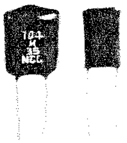

Mylar Capacitor

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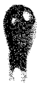
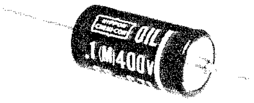


Tantalum Capacitor

7



Oil Capacitor (Tubler Type)

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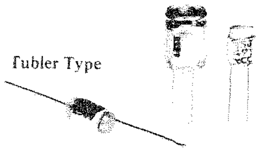

Styrol Capacitor

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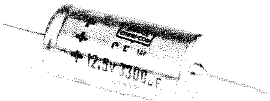

Electrolytic Capacitor (Tubler Type)

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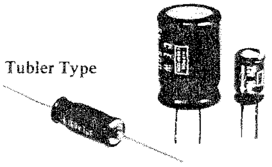

Electrolytic Capacitor

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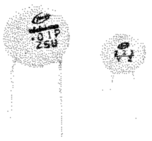

Ceramic Capacitor

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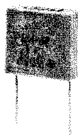
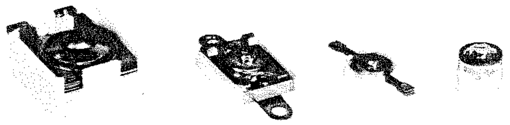


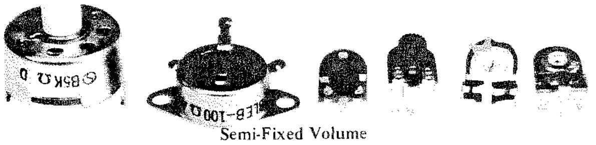
Metalized Mylar (Paper) Capacitor

13



Trimer Condenser

VR



Semi-Fixed Volume

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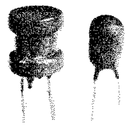
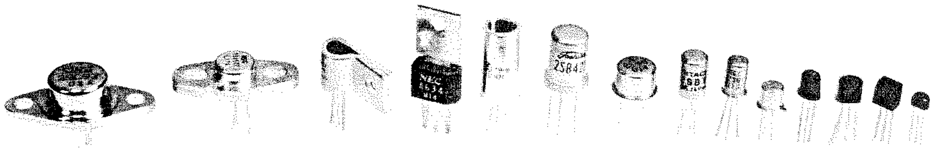


Ferri Inductor

TR



Transistor

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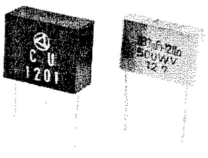

Spark Quencher

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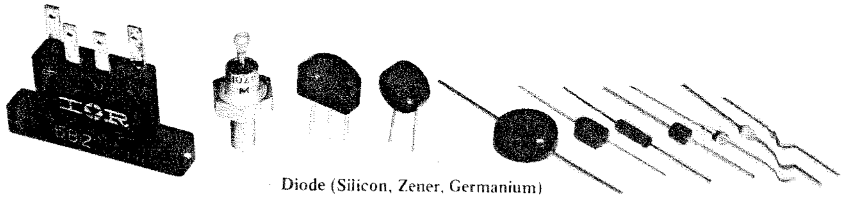

Diode (Silicon, Zener, Germanium)

FIG. 1 (A) ILLUSTRATION OF KH HEAD BLOCK

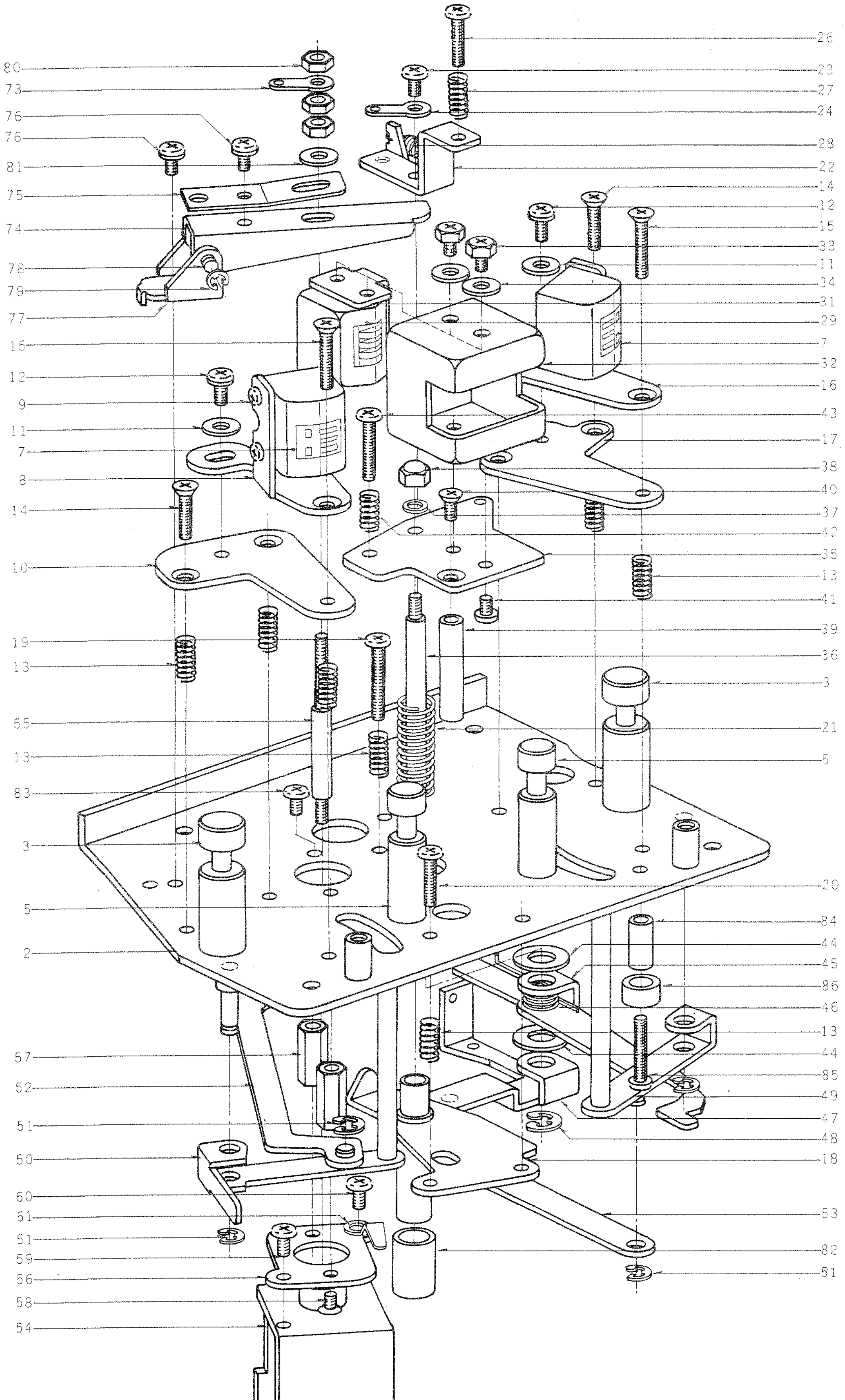
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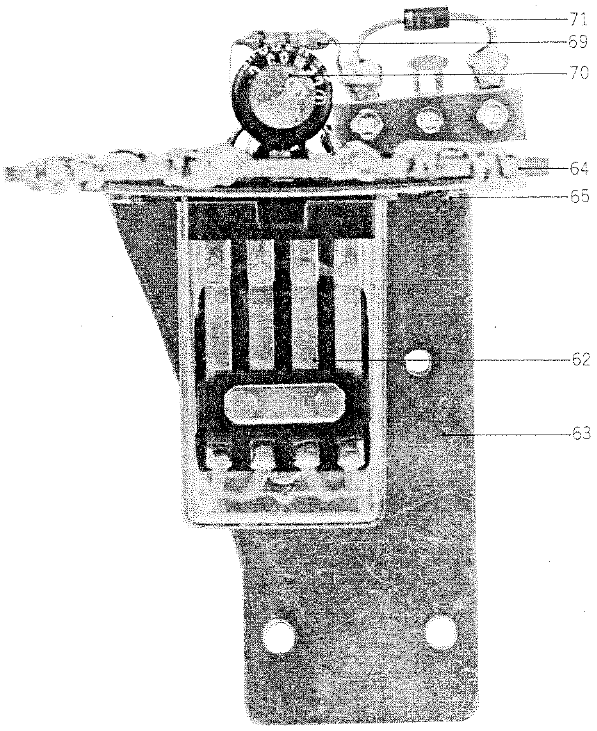
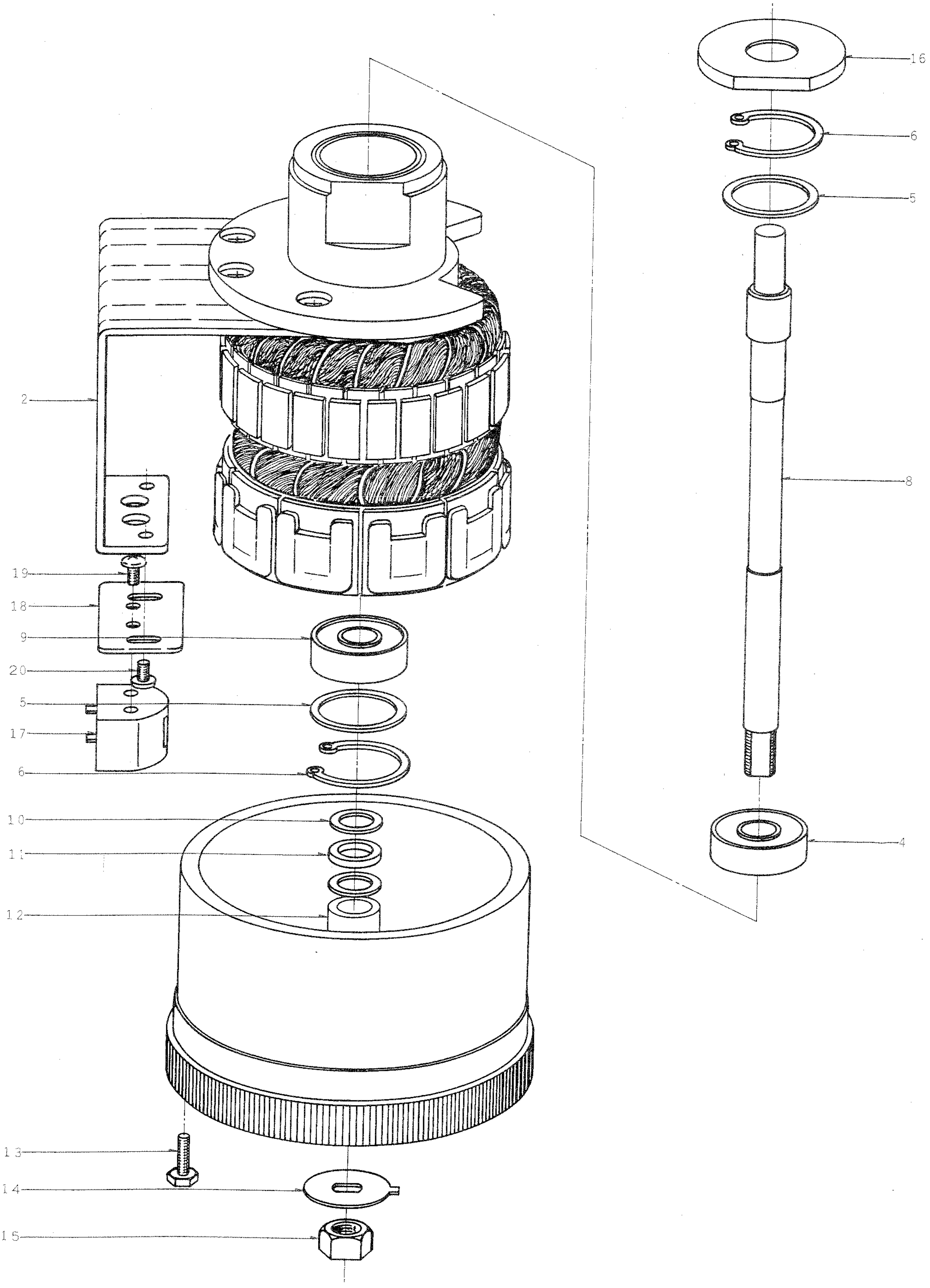
FIG. 1 (B) PHOTO OF KH HEAD BLOCK



KH HEAD BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
1-1x	BH482310	KH Head Block Comp.	KH	1
1-2	HZ473084	Head Chassis, w/pin	KH-0001	1
1-3	HZ473332	Tape Guide B	KH-0027	2
1-4x	ZW434250	Screw, pan head 4x8, w/washer		2
1-5	HZ482714	Tape Guide C	KH-0052	2
1-6x	ZW414033	Screw, countersunk head 3x8		2
1-7	HR482321	REC./ERASE HEAD RE4-1		2
1-8	HZ473152	Combo Head Angle B	KH-0008	1
1-9	ZW477876	Screw, pan head 2x3		6
1-10	HZ473343	Combo Head Base B	KH-0033	1
1-11	ZW413256	Washer (SPC) D3.4x7.8x0.5t		2
1-12	ZW413728	Screw, binding head 3x6, w/washer		2
1-13	ZG303300	Angle Adjust Spring B	RD-55	9
1-14	ZW419793	Screw, countersunk head 3x12		4
1-15	ZW482736	Screw, countersunk head 3x15		2
1-16	HZ473141	Combo Head Angle A	KH-0007	1
1-17	HZ473163	Combo Head Base A	KH-0009	1
1-18	HZ473185	PH Head Chassis B, w/metal	KH-0011	1
1-19	ZW439514	Screw, binding head 3x18		1
1-20	ZW413785	Screw, binding head 3x12		2
1-21	ZG473218	Reverse Spring	KH-0014	1
1-22	HZ473174	Head Height Adjust Table	KH-0010	1
1-23	ZW413155	Screw, binding head 3x6		1
1-24	ZW273778	M3 Earth Lug		2
1-25x	ZW273802	M3 Toothed Lock Washer		1
1-26	ZW413785	Screw, binding head 3x12		1
1-27	ZG303300	Angle Adjust Spring B	RD-55	1
1-28	ZG810055	PH Hold-down Pull Spring	RD-52	1
1-29	HP384524	P.B. HEAD P4-200		1
1-30x	EA463206	P.C. Board, Terminal A	RD-A36	2
1-31	HZ473130	PH Head Angle	KH-0006	1
1-32	HZ382667	Triple-shield	RD-A3	1
1-33	ZW375963	Hexagon Bolt 3x4		2
1-34	ZW413256	Washer (SPC)D3.4x7.8x0.5t		2
1-35	HZ473128	PH Head Chassis A	KH-0005	1
1-36	MH473207	UD Shaft	KH-0013	1
1-37	ZW259648	Washer (PBP)D3x5x0.1t		1
1-38	ZW482758	M3 Cap Nut		1
1-39	HZ809976	PH Hold-down Guide	RD-14	1
1-40	ZW432685	Screw, countersunk head 3x6 D=5		1
1-41	ZW413223	Screw, binding head 3x5, w/washer		2
1-42	ZG303300	Angle Adjust Spring B	RD-55	1
1-43	ZW417148	Screw, binding head 3x15		1
1-44	ZW260188	Washer (Nylon)D6.2x13x0.5t		2
1-45	HZ473231	Stopper	KH-0017	1
1-46	ZG473321	Stopper Spring	KH-0026	1
1-47	HL473242	Shifter Lever 1, w/pin	KH-0018	1
1-48	ZW270134	'E' Ring 5M	6-1-9	1
1-49	HL473253	Shifter Lever 2, w/pin	KH-0019	1
1-50	HL473264	Shifter Lever 3, w/pin	KH-0020	1
1-51	ZW270101	'E' Ring 3M	6-1-9	6
1-52	HZ473297	Shifter Joint A	KH-0023	1
1-53	HZ473308	Shifter Joint B	KH-0024	1
1-54	EP804813	Plunger Solenoid M-10B-34V	44-1-16	1
1-55	HZ473365	Plunger Joint	KH-0031	1
1-56	HZ473354	Plunger Base	KH-0015	1
1-57	HZ321344	Plunger Retaining Prop	RD-7	2
1-58	ZW432685	Screw, countersunk head 3x6 D=5		2
1-59	ZW413728	Screw, binding head 3x6, w/washer		1
1-60	ZW413155	Screw, binding head 3x6		1
1-61	HZ321366	Retaining Plate	3A-72	1
1-62	EP344136	Relay MY4-0-US-AD4-24V	47-1-8	1
1-63	HZ473220	Relay Mt. Parts	KH-0016	1
1-64	EA473376	Head Relay P.C. Board	KH-0029	1
1-65	ZW461935	Screw, round head 2.6x4		4
1-66x	ZW317801	M2.6 Toothed Lock Washer		1
1-67x	EA222096	Connector P.C. Board	RD-140	1
1-68x	EZ328320	Nylon Clip HP-5N		1
1-69	ER361563	Carbon/R. RD1/4 180(J) (Stop. type)	35-10-1	1
1-70	EC220151	Elect./C. 100 µF 25WV (Vert. type)	24-12-91	1
1-71	ED224526	Silicon Diode 10D1	45-2-11	1
1-72x	HZ488092	P.C. Board Shield (for connector)	KH-0055	2
1-73	ZW273778	M3 Earth Lug		1
1-74	HL809998	PH Hold-down Lever	RD-24	1
1-75	ZG246857	Pull Lever Spring	RD-25	1
1-76	ZW413223	Screw, binding head 3x5, w/washer		2
1-77	HL473387	PH Hold-down Lever Support	KH-0032	1
1-78	ZW257477	Connecting Pin	RD-211	1
1-79	ZW270088	'E' Ring 1.9M	6-1-9	1
1-80	ZW273756	M3 Nut		5
1-81	ZW413256	Washer (SPC)D3.4x7.8x0.5t		1
1-82	HZ321434	Dust-proof Cap B	RD-54	1
1-83	ZW417025	Screw, binding head 3x8, w/washer		2
1-84	HZ434272	Shifter Stopper Collar	KD-A0010	1
1-85	ZW417148	Screw, binding head 3x15		1
1-86	MZ428343	KD Stopper Rubber	KD-1088	1

FIG. 2 ILLUSTRATION OF MAIN MOTOR BLOCK (SCM-24)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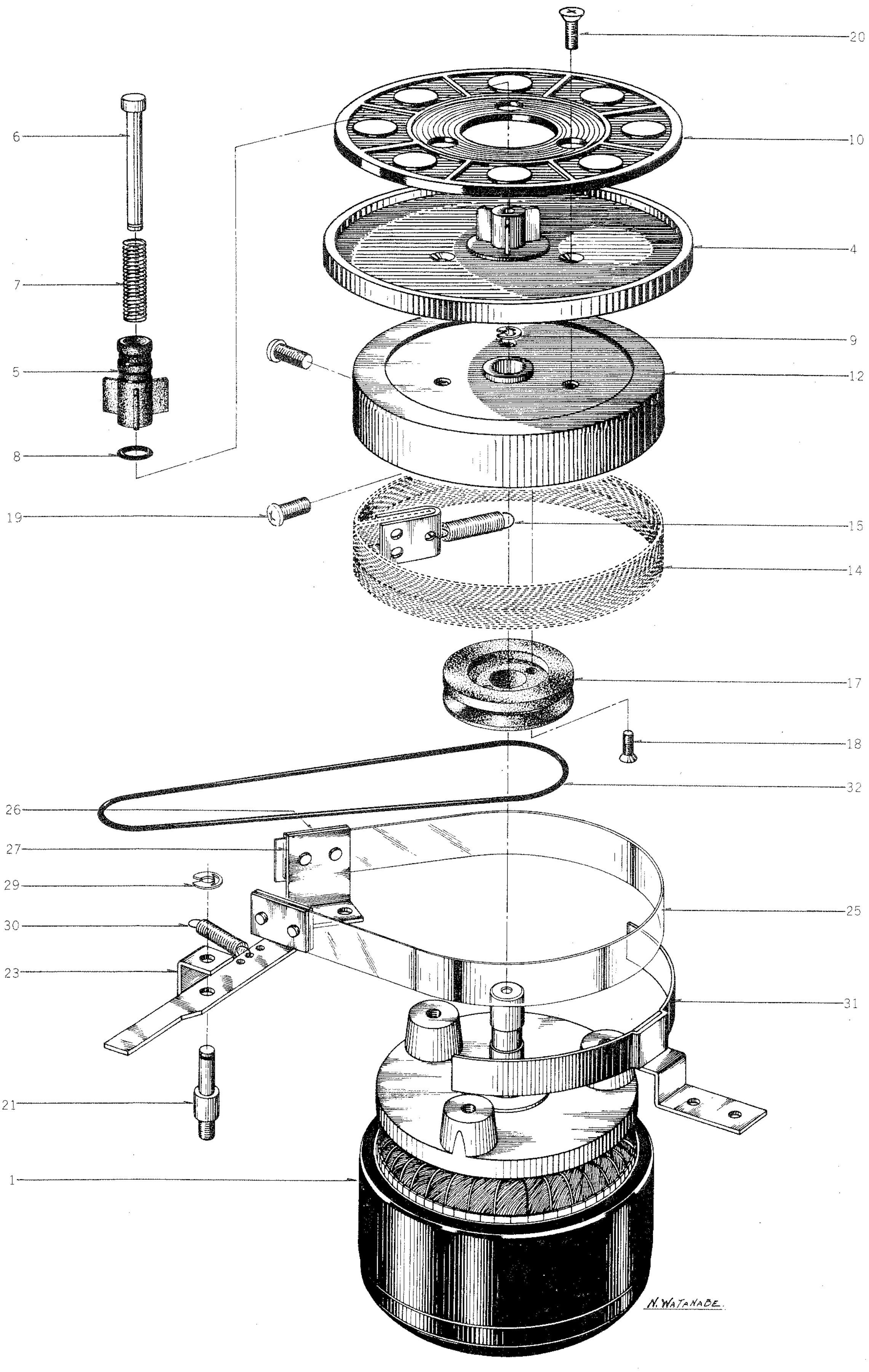
MAIN MOTOR BLOCK (SCM-24)

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
2-1x	BM482286	Main Motor Block (SCM-24) Comp.	KH,KD,KF	1
2-2	MZ405437	Detector Head Mt. Base	KD-7029	1
2-3x	ZW419747	Screw, countersunk head 4x6		4
2-4	MV408510	Bearing 608VVC2E-AV2-L	100707	1
2-5	ZW398125	Adjust Washer A	KD-7019	2
2-6	ZW206021	'C' Ring (hollow) D22	6-1-2	2
2-7x	ZW391476	Set Screw, hexagon socket 4x4(cup)		1
2-8	MS473657	Motor Shaft	KH-7001	1
2-9	MV248130	Bearing 608VVC2E-B32	100707	1
2-10	ZW321592	Washer (SUS)D8.1x13x0.3t		2
2-11	ZW356883	Washer (Hycar)D8.3x11.8x0.5t		3
2-12	ZW424203	Spacer	KD-7057	1
2-13	ZW403525	Hexagon Bolt 3x10		4
2-14	ZW398158	Servo Motor Anti Loosening Washer	KD-7022	1
2-15	ZW403536	M7 Nut P=0.5		1
2-16	MZ398182	Cap	KD-7026	1
2-17	HK398452	DETECTOR HEAD	KH,KD,KF	1
2-18	MZ400421	Detector Head Plate	KD-3008	1
2-19	ZW201475	Screw, pan head 2x3		2
2-20	ZW413155	Screw, binding head 3x6		2

FIG. 3 ILLUSTRATION OF REEL MOTOR/REEL TABLE BLOCK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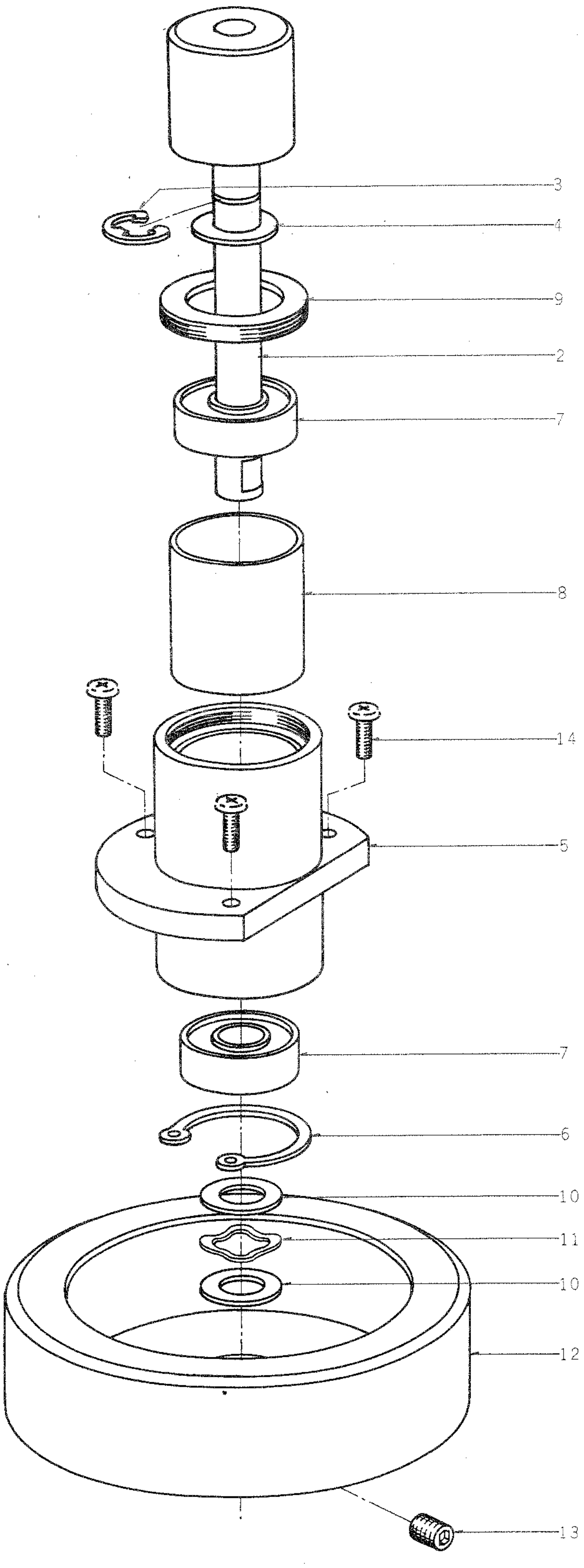
N. WATANABE

REEL MOTOR/REEL TABLE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
	REEL MOTOR BLOCK			
3-1	BM314741	Reel Motor Block (24XO-2) Comp.	KD, MR, MS, MC	2
	REEL TABLE BLOCK			
3-2x	BR482400	Supply Reel Table Comp.	KH, MR, MC	1
3-3x	BR482411	Take-up Reel Table Comp.	KH, MR, MC	1
3-4	MT488147	RD Reel Table Disk B	RD-272	2
3-5	MT255420	Reel Retainer	3R-102	2
3-6	MS342000	Reel Shaft	3R-108	2
3-7	ZG255633	Reel Spring	3R-109	2
3-8	MT297663	3R 'O' Ring 2.9x1.65M	3R-139	2
3-9	ZW270088	'E' Ring 1.9M	6-1-9	2
3-10	MT473422	Reel Table Rubber (KH)	KH-2042	2
3-11x	MT473444	Brake Drum (left) (Supply)	KH-2031	1
3-12	MT473433	Brake Drum (right) (Take-up)	KH-2031	1
3-13x	ZW273778	M3 Earth Lug		2
3-14	MT436860	Brake Cloth Comp.	MR-269	2
3-15	ZG317496	Felt Tension Spring	MR-260	2
3-16x	ZW425981	Screw, binding head 3x3		2
3-17	MR317507	Counter Pulley (Take-up)	MR-217	1
3-18	ZW365973	Screw, countersunk head 2.3x12		2
3-19	ZW424056	Screw, pan head 4x10		4
3-20	ZW403222	Screw, countersunk head 3x10		6
3-21	MZ317373	Brake Lever Prop	MR-102	2
3-22x	ZW413188	M4 Nut		2
3-23	ML314976	Brake Lever A (Take-up)	MR-210	1
3-24x	ML396810	Brake Lever B (Supply)	KD-1038	1
3-25	MB314987	Brake Band	MR-213	2
3-26	MZ314998	Brake Band Retaining Plate	MR-212	4
3-27	MZ315000	Brake Band Support	MR-214	2
3-28x	ZW323728	Screw, binding head [illegible]x5		8
3-29	ZW290283	'U' Ring 2.85M	6-1-1	2
3-30	ZG315011	Brake Lever Spring	MR-116	2
3-31	MZ317406	Brake Band Guide, w/base	MR-120	2
3-32	MB303535	Counter Belt D91x1.6	3A-617	1

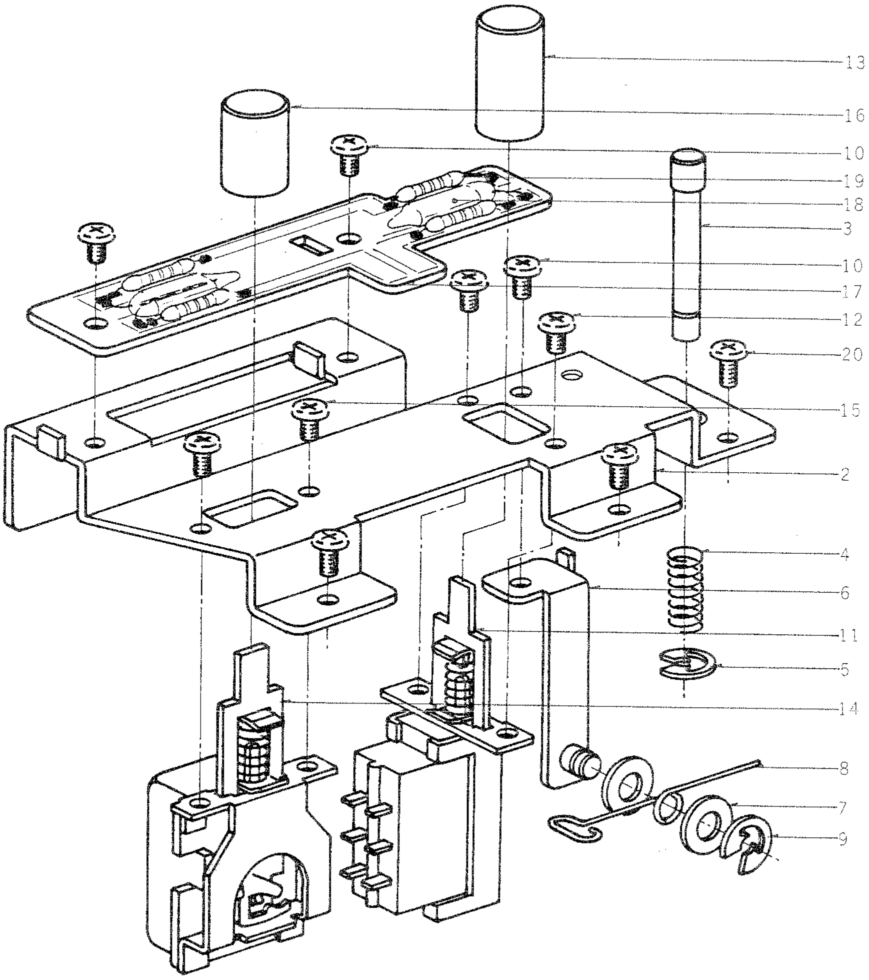
FIG. 4 ILLUSTRATION OF IMPEDANCE ROLLER BLOCK



IMPEDANCE ROLLER BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
4-1x	BL482422	Impedance Roller Block Comp.	KH	1
4-2	MS473916	Impedance Roller Arm Shaft, w/roller	KH-D 36	1
4-3	ZW334653	'E' Ring 7M	6-1-[illegible]	1
4-4	ZW321592	Washer (SUS)D8.1x13x0.3t		1
4-5	BC473927	Impedance Case	KH-D 32	1
4-6	ZW206021	'C' Ring (hollow) D22	6-1-[illegible]	1
4-7	MV248141	Bearing 608VVC2E-B32-L		2
4-8	MZ473938	Bearing Collar	KH-D 33	1
4-9	ZW292667	Z Bearing Screw	3A-15	1
4-10	ZW260256	Washer (PBP)D8.1x13x0.1t		2
4-11	ZG300431	8M/M Oil-pressure Spring WW-8	6-2-[illegible]	1
4-12	MZ292678	Z Wheel	RD-15	1
4-13	ZW487912	Set Screw, hexagon socket 5x6(cup)		2
4-14	ZW413201	Screw, pan head 4x8		3

FIG. 5 ILLUSTRATION OF POWER & PAUSE SWITCH BLOCK



POWER & PAUSE SWITCH BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
5-1x	BS482308	Power & Pause Switch Comp.	KH	1
5-2	MZ474006	Power & Pause Switch Table, w/metal	KH-2050	1
5-3	MS473962	Pause Lock Shaft	KH-2005	1
5-4	ZG473973	Pause Spring	KH-2006	1
5-5	ZW482635	'U' Ring 2.85M	6-1-1	1
5-6	MZ473995	Spring Mt. Plate, w/pin	KH-2049	1
5-7	ZW420682	Washer (Nylon)D4.2x9x0.5t		2
5-8	ZG472770	Pause Spring B	KH-2009	1
5-9	ZW290283	'U' Ring 2.85M	6-1-1	1
5-10	ZW417137	Screw, binding head 3x4		3
5-11	ES482938	Push Switch JH-3	25-5-61	1
5-12	ZW444273	Iso Screw, binding head 3x4		2
5-13	SB474118	Push Button 3	KH-1023	1
5-14	ES468426	Push Switch UEH-12BFN	25-5-58	1
5-15	ZW371856	Iso Screw, binding head 3x5		2
5-16	SK482646	Knob B-1	MC-5011	1
5-17	EA487991	Neon Lamp P.C. Board	KH-1031	1
5-18	EL236125	Neon Lamp NE-68	28-3-3	2
5-19	ER345756	Carbon/R. RD1/4 68k(J) (Insu. type)	35-9-5	4
5-20	ZW323728	Screw, binding head 3x5		3

FIG. 6 (A) ILLUSTRATION OF OPERATION BLOCK

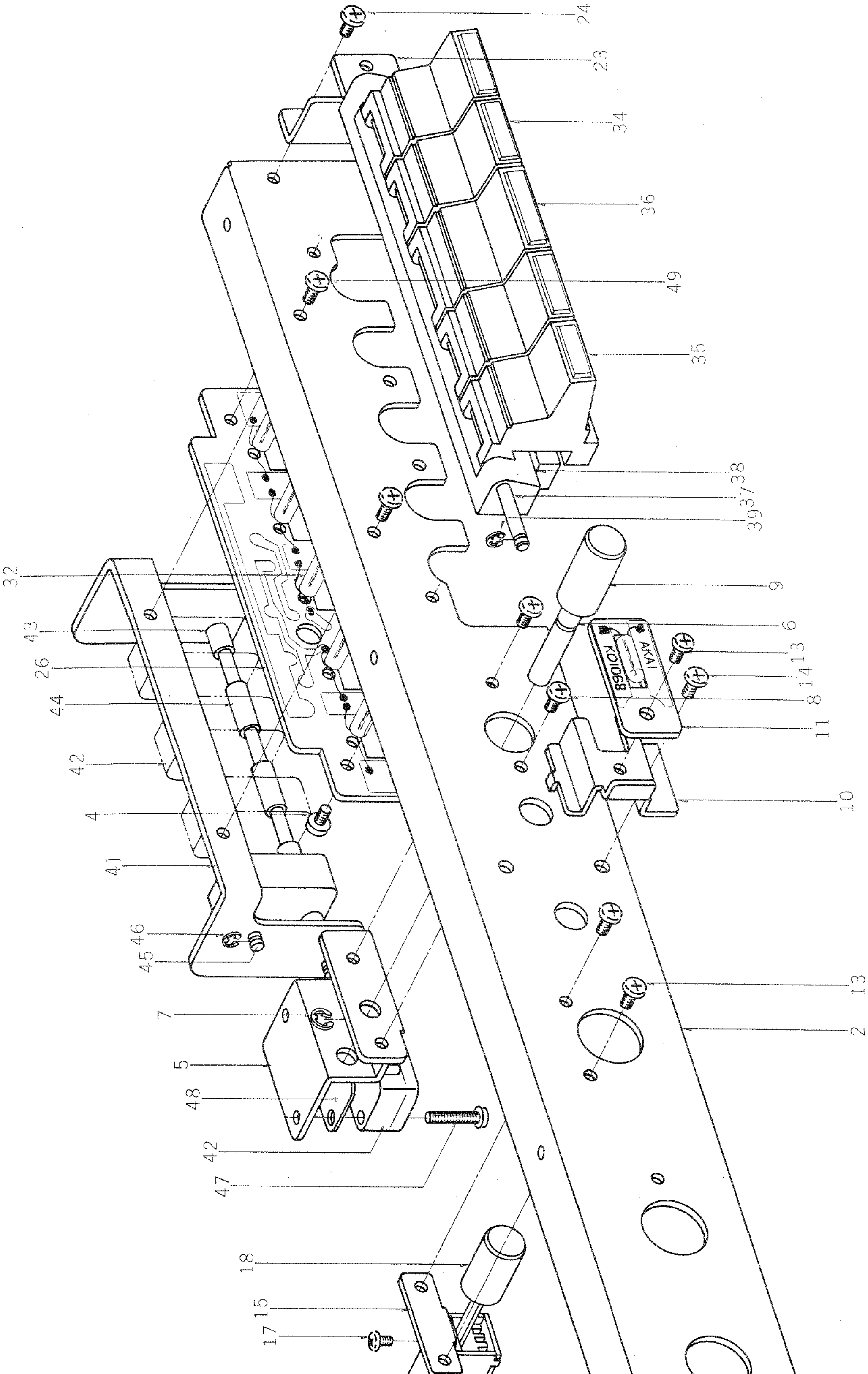

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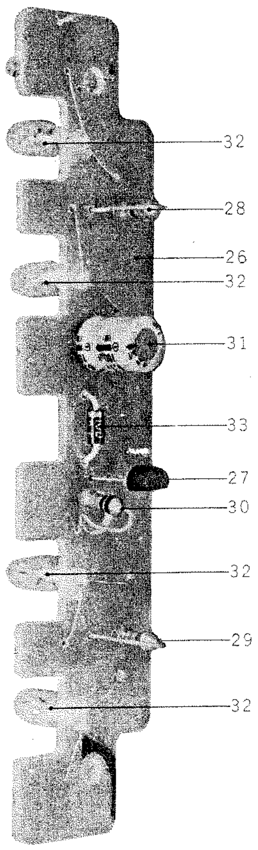
FIG. 6 (B) PHOTO OF OPERATION BLOCK



OPERATION BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
6-1x	BZ482376	Operation Block Comp.	KH	1
6-2	BZ472656	Operation Frame	KH-2016	1
6-3x	BA482398	Operation Lamp P.C. Board Comp. (KH-2019)		1
6-4	ZW323728	Screw, binding head 3x5		2
6-5	EZ397956	Rec. Button Bracket	KD-5015	1
6-6	MZ472667	Rec. Push Rod	KH-2028	1
6-7	ZW270101	'E' Ring 3M	6-1-9	1
6-8	ZW323728	Screw, binding head 3x5		2
6-9	SK472678	Rec. Knob	KH-2027	1
6-10	MZ472680	Rec. Lamp Mt. Plate	KH-2040	1
6-11	EA396898	Neon Lamp P.C. Board	KD-1068	1
6-12x	EL390576	Pilot Lamp RM6-24V-50MA	28-2-6	1
6-13	ZW323728	Screw, binding head 3x5		3
6-14	ZW472274	Tapping Screw #2 3x6		1
6-15	MZ472691	SRT Switch Mt. Part	KH-2024	1
6-16	ES482861	Push Switch UEG-63A	25-5-63	1
6-17	ZW442585	Screw, binding head 2.6x4		2
6-18	SK482850	Knob B-1	KF-2019	1
6-19x	BA482387	Tape Speed Switch P.C. Board Comp. (KH-2011)		1
6-20x	ZW371856	Iso Screw, binding head 3x5		2
6-21x	SB474052	Push Button 1	KH-1022	2
6-22x	ZW259413	Washer (ALP)D2.7x4.9x1t	BT-112	1
6-23	MZ472792	Amp. Panel Retaining Metal	KH-2029	2
6-24	ZW472274	Tapping Screw #2 3x6		4
6-25x	BA482398	Operation Lamp P.C. Board Comp. (KH-2019)		1
6-26	EA472724	Operation Lamp P.C. Board (KH-2019)	KH-2019	1
6-27	ET398711	Transistor 2SC945(Q)(R)	45-1-85	1
6-28	ER430053	Carbon/R. RD1/4 22(J) (Stop. type)	35-10-1	1
6-29	ER212883	Carbon/R. RD1/4 4.7k(J) (Stop. type)	35-10-1	1
6-30	ER211465	Carbon/R. RD1/4 1k(J)	35-10-1	1
6-31	EC220364	Elect./C. 100 μF 6.3WV (Vert. type)	24-12-9	1
6-32	EL390576	Pilot Lamp RM6-24V-50MA	28-2-6	4
6-33	ED224526	Silicon Diode 10D1	45-2-11	1
6-34	SB867205	Operation Button A, w/bush A(blue)	KH-2022	2
6-35	SB867565	Operation Button A, w/bush B(orange)	KH-2022	2
6-36	SB472768	Operation Button B	KH-2021	1
6-37	MS438243	Button Shaft	KF-2009	1
6-38	MZ472781	Lamp Cover	KH-2018	1
6-39	ZW270088	'E' Ring 1.9M	6-1-9	2
6-40x	ZW323728	Screw, binding head 3x5		2
6-41	MZ474513	Operation Switch Base	KH-2017	1
6-42	ES250075	Micro Switch V-1A10 U/L	25-1-8	7
6-43	MZ397337	Switch Spacer A	KD-2005	2
6-44	MZ472836	Operation Button Collar	KH-2023	2
6-45	MS250165	Micro Switch Shaft B	RD-122B	2
6-46	ZW270088	'E' Ring 1.9M	6-1-9	4
6-47	ZW417148	Screw, binding head 3x15		2
6-48	ZG466154	Switch Spring	KD-A2-012	1
6-49	ZW323728	Screw, binding head 3x5		2

FIG. 7 (A) ILLUSTRATION OF POWER SUPPLY BLOCK

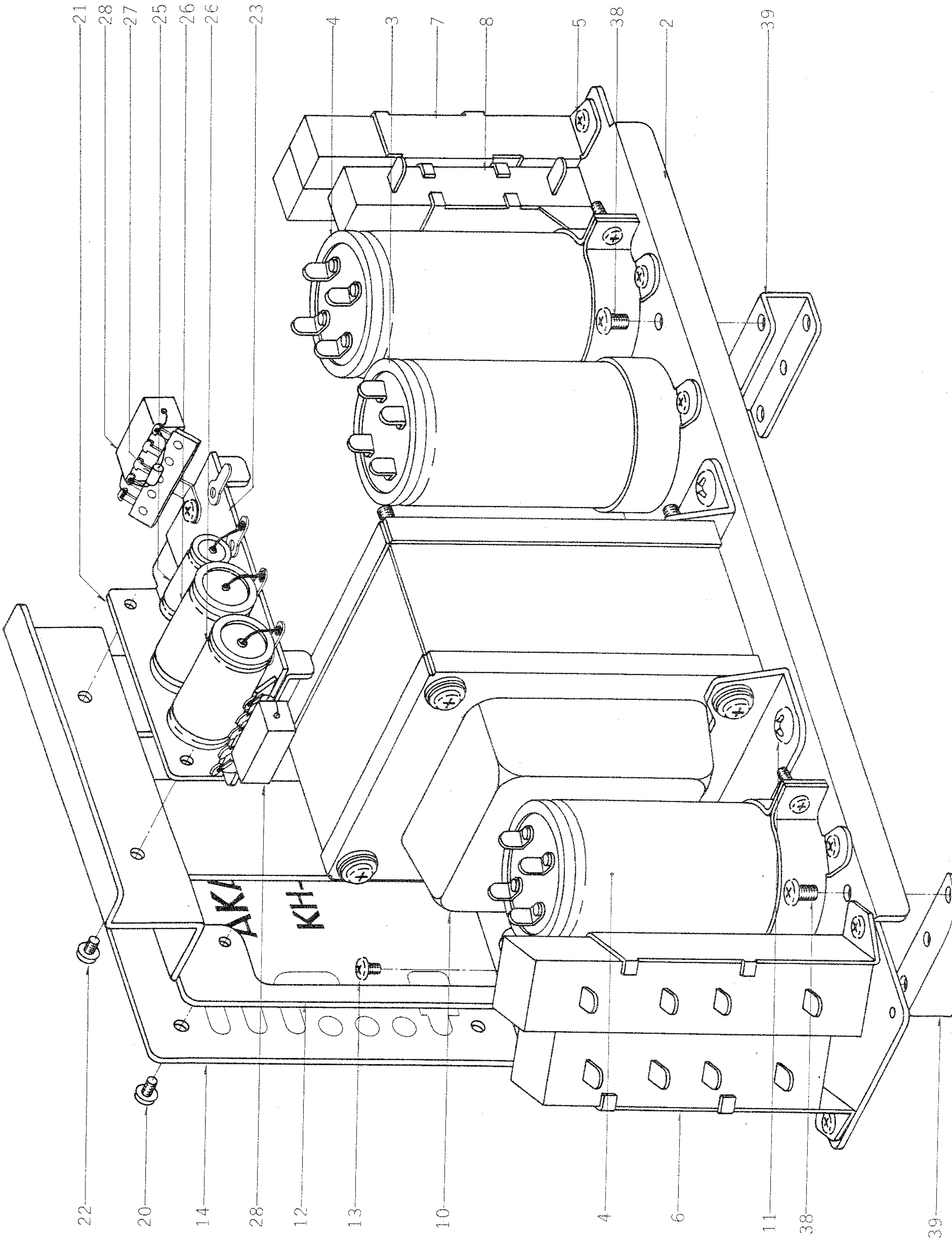

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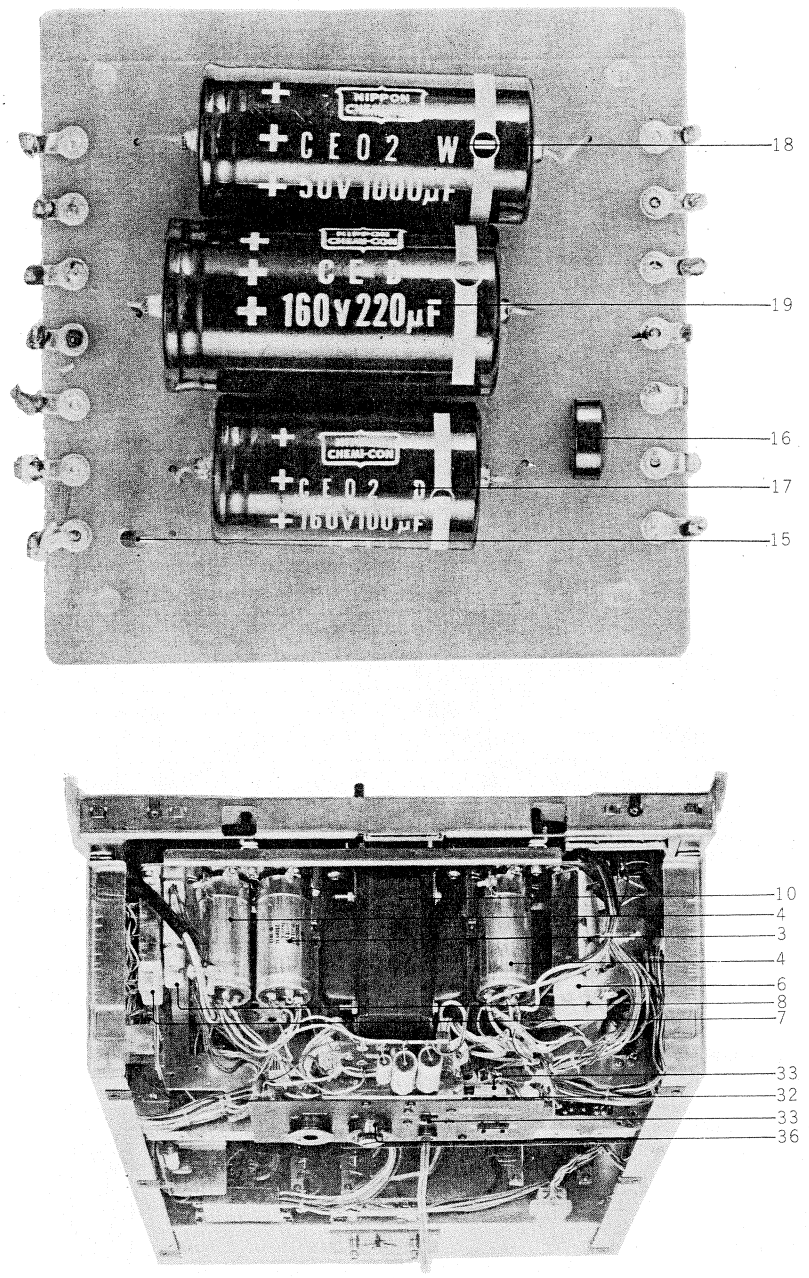
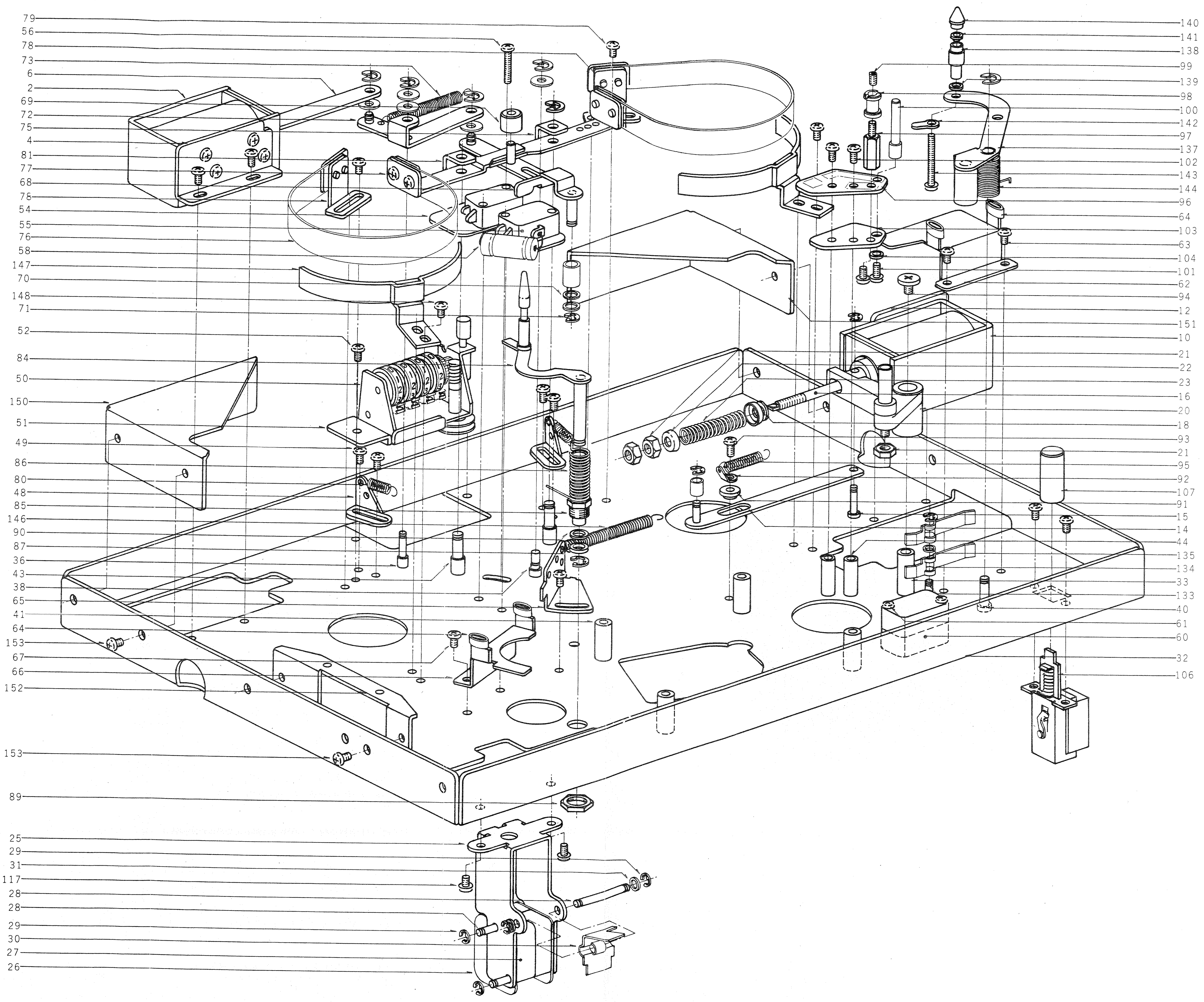
FIG. 7 (B, C) PHOTO OF POWER SUPPLY BLOCK



POWER SUPPLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
7-1x	BP482343	Power Supply Block Comp.	KH, KD, KF, KG	1
7-2	UM488924	Trans. Table	KH-2052	1
7-3	EC434081	MP/C. 3+0.5 μF 200WV (Lug type Uni/D.)	24-9-58	1
7-4	EC398632	MP/C. 3+1 μF 260WV (Lug type Uni/D.)	24-9-52	2
7-5	ZW472274	Tapping Screw #2 3x6		11
7-6	ER426690	Cement/R. H(40+30) H2B (350+150x200+500)	35-16-25	1
7-7	ER493097	Cement/R. H(20+20) H1B (60+35x1.5k+500)k	35-16-35	1
7-8	ER339805	Cement/R. H20B 450(K) (wire-wound type), w/belt	35-16-16	1
7-9x	ER472296	Cement/R. H20B 220(K)	35-16-16	1
7-10	BT472702	Power Trans. KHT-1	38-4-153	1
7-11	ZW468112	Tapping Screw #2 4x8(truss)		4
7-12	MZ465772	Trans. Table D	KD-A2008	1
7-13	ZW490228	Tapping Screw #2 3x8		2
7-14	BA482578	Capacitor P.C. Board (KH-2012) Comp.	KH-2051	1
7-15	ED224550	Silicon Diode 10D4	45-2-16	1
7-16	ED329130	Silicon Diode 10DC-1(black)	45-2-27	1
7-17	EC316091	Elect./C. 100 μF 160WV (Tub. type)	24-14-14	1
7-18	EC365692	Elect./C. 1000 μF 50WV (Tub. type)	24-13-15	1
7-19	EC346746	Elect./C. 220 μF 160WV (Tub. type)	24-14-8	1
7-20	ZW490228	Tapping Screw #2 3x8		4
7-21	EZ397282	Capacitor Retaining Base	KD-2027	1
7-22	ZW323728	Screw, binding head 3x5		4
7-23	EZ398946	Terminal Plate SP-0501 B type 4P	33-4-9	1
7-24x	ER430143	Carbon/R. RD1/4 120(J) (Insu. type)	35-9-5	1
7-25	EC273464	MP/C. 0.1 μF(M) 350WVDC (Tub. type)	24-9-4	1
7-26	EC341842	MP/C. 0.47 μF(M) 300WVAC (Tub. type)	24-9-35	2
7-27	EJ255115	Lug Plate VB2L2	33-4-3	2
7-28	ER466986	Cement/R. S5W 45(K) (Wire-wound type)	35-16-3	2
7-29x	ED224550	Silicon Diode 10D4	45-2-16	1
7-30x	EZ328320	Nylon Clip HP-5N		2
7-31x	ZW462194	Tapping Screw #2 3x8(pan), w/washer		2
7-32	EZ397304	Frequency Change Switch Plate A	KD-2043	1
7-33	ES375478	Slide Switch ESD-279DU	25-3-23	2
7-34x	ZW371856	Iso Screw, binding head 3x5		2
7-35x	ZW440291	Iso Screw, countersunk head 3x6		2
7-36	EJ233370	Power Plug Socket S-18010	40-2-3	1
7-37x	EF277413	Fuse ST-2 2A	39-1-26	1
7-38	ZW417150	Screw, pan head 4x6		4
7-39	MZ397170	Trans. Base C	KD-1065	2

FIG. 8 (A) (B) ILLUSTRATION OF MECHANISM ASSEMBLY BLOCK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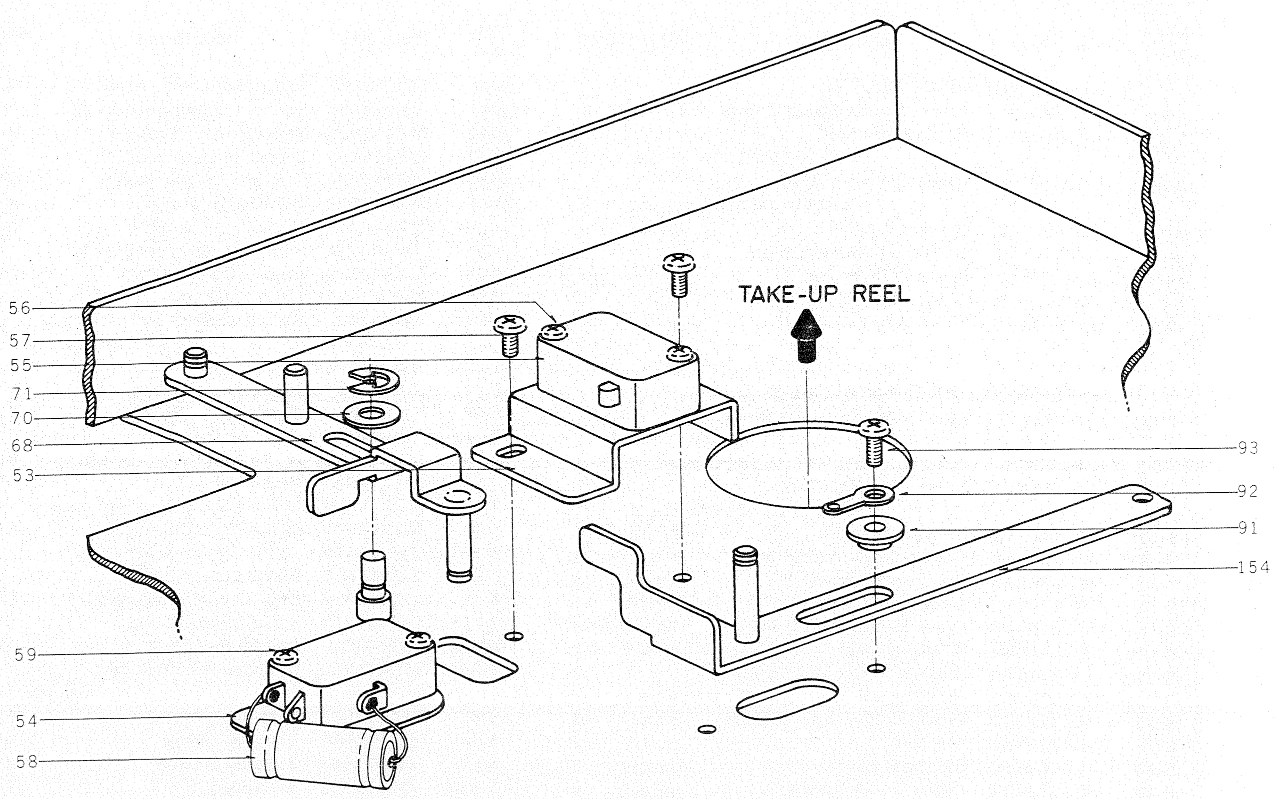
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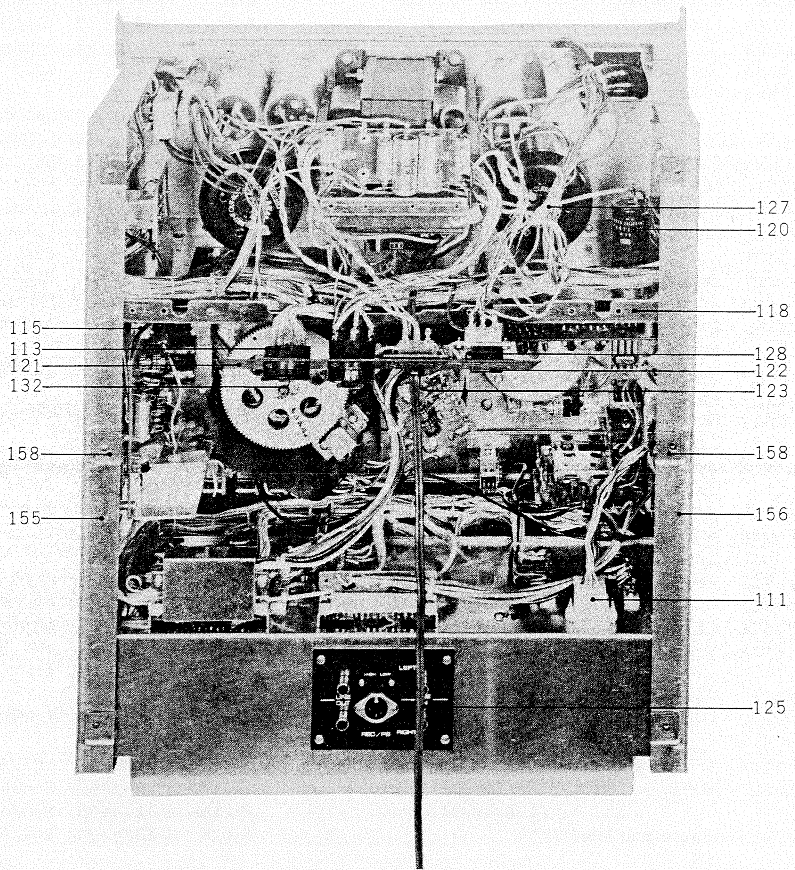
FIG. 8 (C) PHOTO OF MECHANISM ASSEMBLY BLOCK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MECHANISM ASSEMBLY BLOCK

BRAKE PLUNGER BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-1x	BZ398338	Brake Plunger Block Comp.	KH.KD.KF	1
8-2	EP398610	Plunger Solenoid SDC-10-M-C-100V	44-1-36	1
8-3x	ER376424	Spark Quencher U/L 0.1μ+120 500WV	41-1-36	1
8-4	MZ396911	Plunger Bracket	KD-1028	1
8-5x	ZW201835	Screw, binding head 3x5		4
8-6	MZ396977	Brake Plunger Joint	KD-1039	1
8-7x	ZW257477	Connecting Pin	RD-211	1
8-8x	ZW270088	'E' Ring 1.9M	6-1-9	1

PINCH ROLLER PLUNGER BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-9x	BZ482297	Pinch Roller Plunger Block Comp.	KH.KD.KF	1
8-10	EP441990	Plunger 1660THTI Solenoid	44-1-45	1
8-11x	ER376424	Spark Quencher U/L 0.1μ+120 500WV	41-1-36	1
8-12	MZ396911	Plunger Bracket	KD-1028	1
8-13x	ZW323728	Screw, binding head 3x5		3
8-14	MZ396966	Plunger Joint, w/pin	KD-1033	1
8-15	ZW257477	Connecting Pin	RD-211	1
8-16	MZ396944	Pinch Roller Arm Joint	RD-1031	1
8-17x	ZW270088	'E' Ring 1.9M	6-1-9	1
8-18	ZW345442	Washer (Nylon)D4.2x9x1t		1
8-19x	ZW270101	'E' Ring 3M	6-1-9	1
8-20	MZ396933	Pinch Roller Arm, w/shaft	KD-1030	1
8-21	ZW273960	M4 Nut		3
8-22	MZ802980	Spring Holder	RD-276	2
8-23	ZG428927	Pinch Roller Spring B	KD-1032	1

SPEED CHANGE SWITCH BLOCK

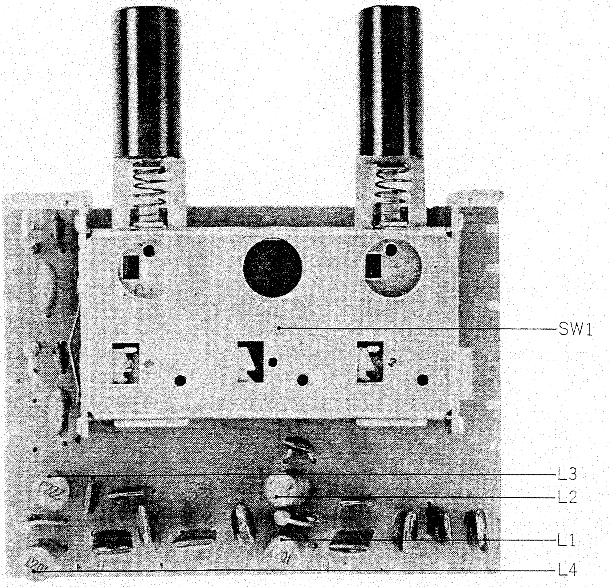
Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-24x	BS482354	Speed Change Switch Block Comp.	KH.KF	1
8-25	MZ473455	Speed Change Switch Stand	KH-2010	1
8-26	MZ402377	Micro Insulator D	KD-2050	2
8-27	ES250064	Micro Switch V-1A44 U/L	25-1-7	2
8-28	MS438254	Micro Switch Shaft	KF-2023	3
8-29	ZW270088	'E' Ring 1.9M	6-1-9	6
8-30	ML397383	Speed Change Switch Lever 2	KD-2016	1
8-31	ZW425733	Washer (ALP)D3.1x8x1t		2

MECHANISM ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-32	MZ472814	Mech. Frame	KD-1001	1
8-33	MS397001	Pinch Roller Arm Shaft	KD-1002	1
8-34x	ZW274026	M5 Spring Washer		1
8-35x	ZW413278	M5 Nut		1
8-36	MS397012	Brake Lever Shaft	KD-1003	1
8-37x	ZW413188	M4 Nut		4
8-38	MS465480	Brake Lever Shaft B	KD-1093	1
8-39x	ZW273756	M3 Nut		1
8-40	MS397023	Tension Arm Shaft	KD-1004	1
8-41	HZ397034	Head Base Prop	KD-1005	4
8-42x	ZW416687	Screw, binding head 4x8		4
8-43	MZ317373	Brake Lever Prop	MR-102	2
8-44	MH487888	Sensing Table Prop B	KH-1034	2
8-45x	ZW413741	Screw, binding head 3x8		8
8-46x	MZ397045	Sys. Con. Connector Prop	KD-1006	4
8-47x	ZW273778	M3 Earth Lug		1
8-48	MZ397080	Spring Hanger	KD-1010	2
8-49	ZW323728	Screw, binding head 3x5		4
8-50	MC399521	Counter M-470D	9-1-14	1
8-51	MZ397078	Counter Base	KD-1009	1
8-52	ZW323728	Screw, binding head 3x5		2
8-53	MZ512133	Micro Switch Table	KH-2059	1
8-54	MZ250413	Micro Insulator C	RC-127	2
8-55	ES250064	Micro Switch V-1A44 U/L	25-1-7	2
8-56	ZW439514	Screw, binding head 3x18		2
8-57	ZW323728	Screw, binding head 3x5		2
8-58	EC273464	MP/C. 0.1μF(M) 350WVDC (Tub. type)	24-9-4	1
8-59	ZW422965	Screw, pan head 3x15		2
8-60	ES250064	Micro Switch V-1A44 U/L	25-1-7	2
8-61	ZW414066	Screw, binding head 3x25		2
8-62	MZ472904	Shut-off Arm Stopper	KH-1006	1
8-63	ZW417137	Screw, binding head 3x4		4
8-64	MZ499634	Stopper Rubber (KH)	KH-1037	4
8-65	MZ434237	KD Spring Hanger	KD-A1007	1
8-66	MZ486450	Roller Arm Stopper	KH-1033	1
8-67	ZW323728	Screw, binding head 3x5		2
8-68	MZ396832	Brake Slide, w/pin	KD-1044	1
8-69	MZ397181	Lever Cushion	KD-1069	1
8-70	ZW482545	Washer (Polyslider) D4.1x10x0.13t		5
8-71	ZW270101	'E' Ring 3M	6-1-9	1
8-72	ML396742	Brake Lever, w/pin	KD-1041	1
8-73	ZG465478	Brake Lever Spring	KD-1092	1
8-74x	ZW290283	'U' Ring 2.85M	6-1-1	4
8-75	ML314976	Brake Lever A (Take-up)	MR-210	1
8-76	MB314987	Brake Band	MR-213	2
8-77	MZ314998	Brake Band Retaining Plate	MR-212	4
8-78	MZ315000	Brake Band Support	MR-214	2
8-79	ZW323728	Screw, binding head 3x5		8
8-80	ZG315011	Brake Lever Spring	MR-116	2
8-81	ML396810	Brake Lever B (Supply)	KD-1038	1
8-82x	MZ467111	Servo Motor Shield	KD-A1010	2
8-83x	EJ254970	Lug Plate KP1L1	33-3-3	1
8-84	ML472950	Impedance Roller Arm, w/guide	KH-1018	1
8-85	MZ473005	Arm Shaft Metal	KH-1015	1
8-86	ZG472994	Tension Spring	KH-1017	1
8-87	ZW472983	Z Roller Washer	KH-2043	1
8-88x	ZW270101	'E' Ring 3M	6-1-9	1
8-89	ZW273363	M9 Hexagon Nut	RD-254	1
8-90	ZW499443	Washer (Nylon)D5.1x7.8x0.2t		1
8-91	ZW397157	Graduated Washer	KD-1036	1
8-92	ZW273778	M3 Earth Lug		1
8-93	ZW413155	Screw, binding head 3x6		1
8-94	ZW243516	Screw, Pinch Roller	XR-140	1
8-95	ZG208091	Impedance Arm Spring	RD-269	1
8-96	EA473016	Sensing P.C. Board	KH-2013	1
8-97	MH473027	Tape Guide Prop	KH-1028	1
8-98	MZ473038	Sensing Guide B	KH-2014	1
8-99	ZW433001	Set Screw, hexagon socket 3x5(cup)		1
8-100	MZ473040	Sensing Pole	KH-2015	1
8-101	ZW413741	Screw, binding head 3x8		1
8-102	ZW413155	Screw, binding head 3x6		2
8-103	MZ486448	Print Reinforcement Board	KH-1132	1
8-104	MZ397214	Insulator Liner A	KD-2031	1
8-105x	MB303535	Counter Belt D91x1.6	3A-617	1
8-106	ES482938	Push Switch JH-3	25-5-11	1
8-107	SB474041	Push Button 2	KH-1123	1
8-108x	ZW444273	Iso Screw, binding head 3x4		2
8-109x	EJ310871	18P Multi-Jack J-2 3250-018-001	31-4-11	1
8-110x	EJ347670	22P Multi-Jack-3 3250-022-001S	31-4-13	1
8-111	EJ450573	9P Mate-N-Lock Cap Housing 1-480277-0	52-1-1	1
8-112x	HZ243191	Pin Contact 60511-1	52-1-1	7
8-113	EJ222748	Sub Magnale Socket #311SG	31-1-19	1
8-114x	MZ302400	Remote Control Socket Mt. Plate	RX-55	1
8-115	EJ368785	14P Multi-Jack 3250-014-001	31-4-14	1
8-116x	MH487890	Servo P.C. Board Prop	KH-2053	2
8-117	ZW417137	Screw, binding head 3x4		2
8-118	EZ397135	Center Frame	KD-1153	1
8-119x	EZ397743	P.C. Board Prop	KD-2044	3
8-120	EC348704	Elect./C. 2200μF 35WV (Lug type)	24-1053	1
8-121	MZ472858	Connector Plate	KH-2044	1
8-122	EJ378944	U/L AC Socket S-I 9122	31-1-17	1
8-123	EZ382263	Strain Relief SR-4K-4	2-7-11	1
8-124x	EZ246936	Strain Relief SR-6W-1 (3 core)	2-7-8	1
8-125	EZ374894	U/L AC Cord 3M	26-3-19	1

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-126x	EZ315448	Australia Cord	26-3-11	1
8-127	EJ205975	Cramp Terminal 1-SD	32-1-7	9
8-128	EZ397124	Cycle Change Switch Plate B	KD-1055	1
8-129x	ZW201150	Screw, truss head 3x6(black)		6
8-130x	ZW374128	Iso Screw, truss head 3x8 (black)		2
8-131x	ZW447761	Tapping Screw #2 3x6(BR) (black)		4
8-132	EJ326430	11P Short Plug A	42-1-25	1
8-133	MS408497	Switch Lever Shaft	KD-1080	1
8-134	ML409083	Micro Switch Lever	KD-1081	2
8-135	ZW259683	Washer (Nylon)D3x5x1t		1
8-136x	ZW270088	'E' Ring 1.9M	6-1-9	1
8-137	ML492906	Shut-off Lever B, w/metal	KD-1052	1
8-138	MZ473073	Sensing Collar	KH-1030	1
8-139	ZW492063	Insulator Washer	KH-2056	1
8-140	MZ473051	Sensing Top	KH-1028	1
8-141	HZ317632	Insulator Collar A	MR-36	1
8-142	ZW273633	M2.3 Earth Lug		1
8-143	ZW484828	Screw, binding head 2.3x25		1
8-144	ZG409015	Tension Arm Spring C	KD-1079	1
8-145x	ZW290283	'U' Ring 2.85M	6-1-1	1
8-146	ZG407575	Shifter Lever Spring	KD-1078	1
8-147	MZ317406	Brake Band Guide, w/base	MR-120	2
8-148	ZW323728	Screw, binding head 3x5		4
8-149x	MP424023	Pinch Roller (KD)	KD-1084	1
8-150	SZ397517	Corner Angle A (left)	KD-6003A	1
8-151	SZ397528	Corner Angle B (right)	KD-6003B	1
8-152	SZ473725	Mech. Panel Reinforcement Plate	KH-1004	2
8-153	ZW413741	Screw, binding head 3x8		8
8-154	MZ514653	Plunger Joint B, w/pin	KH-2060	1
8-155	SZ473681	Side Chassis A, w/angle (right)	KH-6010A	1
8-156	SZ473692	Side Chassis B, w/angle (left)	KH-6010B	1
8-157x	ZW290248	U type Speed Nut M4 #1 (small)	6-3-1	6
8-158	ZW290250	U type Speed Nut M4 #1 (large)	6-3-2	10
8-159x	ZW200610	Tapping Screw 4x12(truss)		6

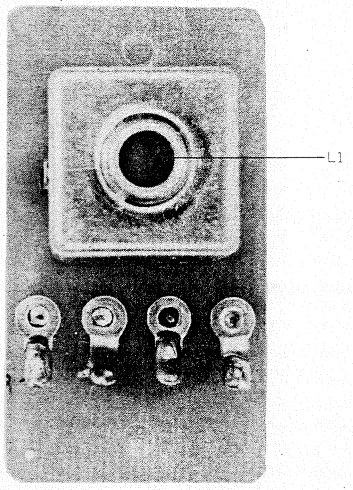
FIG. 9 PHOTO OF TAPE SPEED SWITCH P.C. BOARD (KH-2011)



TAPE SPEED SWITCH P.C. BOARD (KH-2011) BLOCK

Symbol No.	Parts No.	Description	Q'ty
9-1x	BA482387	Tape Speed Switch P.C. Board Comp. (KH-2011)	1
9-L1	EO243977	Ferri Inductor FL7H 1MH(J)	1
9-L2, 3	EO458932	Ferri Inductor FL7H 2.2MH(J)	2
9-L4	EO243977	Ferri Inductor FL7H 1MH(J)	1
9-SW1	ES472645	Push Switch SPM025N	1
		Capacitor, Vertical Type	
9-C1	EC379157	Mylar 0.033μF(J) 50WV	1
9-C2	EC389485	Mylar 0.018μF(J) 50WV	1
9-C3	EC379157	Mylar 0.033μF(J) 50WV	1
9-C4	EC368335	Mylar 0.022μF(J) 50WV	1
9-C5	EC250975	Mylar 0.015μF(J) 50WV	1
9-C6	EC411827	Mylar 0.0082μF(J) 50WV	1
9-C7	EC379157	Mylar 0.033μF(J) 50WV	1
9-C8	EC389485	Mylar 0.018μF(J) 50WV	1
9-C9	EC379192	Mylar 0.039μF(J) 50WV	1
9-C10	EC250975	Mylar 0.015μF(J) 50WV	1
9-C11	EC368335	Mylar 0.022μF(J) 50WV	1
9-C12	EC350875	Mylar 0.001μF(J) 50WV	1
9-C13	EC329848	Hi-Q 100PF(J) 50WV	1
9-C14	EC350875	Mylar 0.001μF(J) 50WV	1
9-C15	EC329848	Hi-Q 100PF(J) 50WV	1
9-C16	EC411827	Mylar 0.0082μF(J) 50WV	1
		Resistor, Stopper Type	
9-R1	ER362441	Carbon RD1/4 1.8k(J)	1
9-R2	ER399060	Carbon RD1/4 9.1k(J)	1
9-R4	ER399060	Carbon RD1/4 9.1k(J)	1
9-R6	ER362441	Carbon RD1/4 1.8k(J)	1

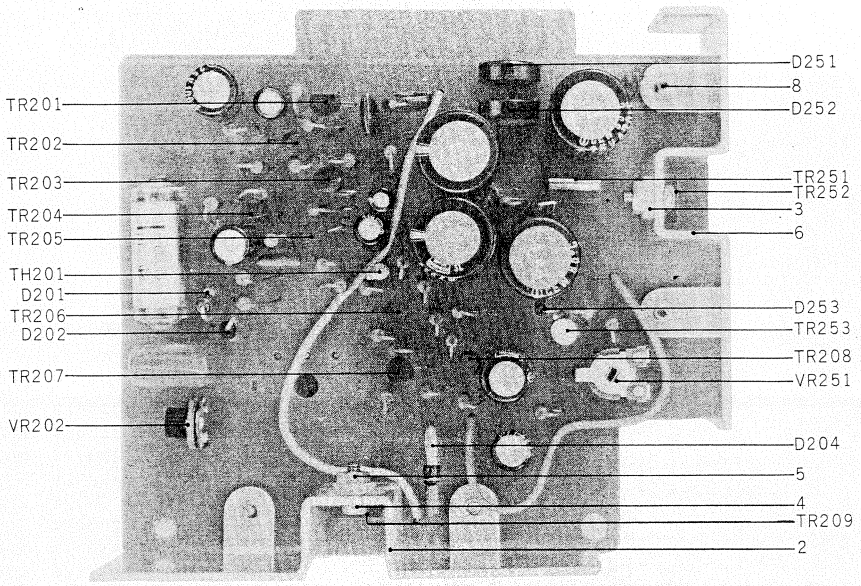
FIG. 10 PHOTO OF COIL P.C. BOARD (KD-1097)



COIL P.C. BOARD (KD-1097) BLOCK

Symbol No.	Parts No.	Description	Q'ty
10-1x	BA495808	Coil P.C. Board Comp. (KD-1097)	1
10-L1	EO403446	Variable Coil VI2031 SC-01	1
10-2x	EZ495843	Coil Retaining Angle	1
10-3x	ZW413155	Screw, binding head 3x6	2

FIG. 11 PHOTO OF SERVO P.C. BOARD (KH-1011)

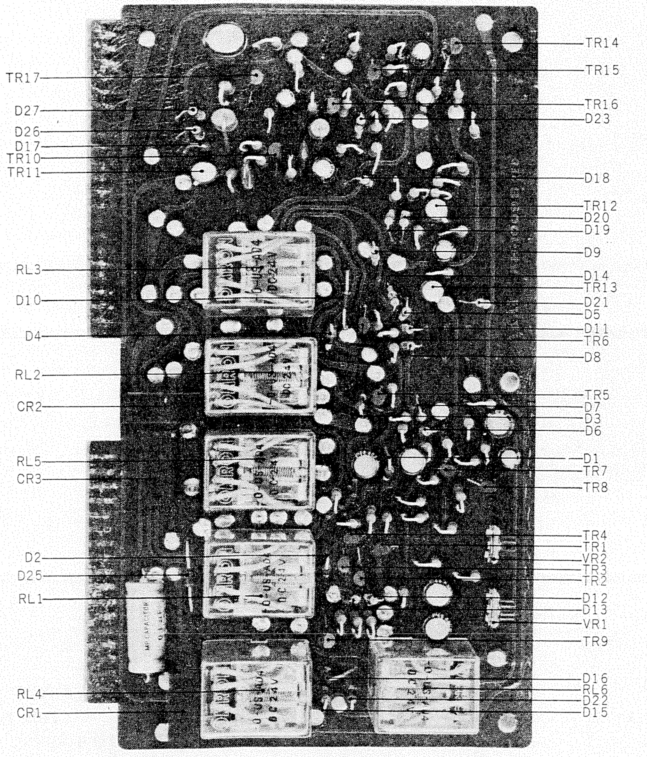


SERVO P.C. BOARD (KH-1011) BLOCK

Symbol No.	Parts No.	Description	Q'ty
11-1x	BA482332	Servo P.C. Board Comp. (KH-1011)	1
11-TR201	ET379462	Transistor 2SC711(D)(E)	1
11-TR202	ET356984	Transistor 2SA564(R)	1
11-TR203, 4	ET379462	Transistor 2SC711(D)(E)	2
11-TR205	ET356984	Transistor 2SA564(R)	1
11-TR206	ET398777	Transistor 2SC711(G)(F)	1
11-TR207	ET379462	Transistor 2SC711(D)(E)	1
11-TR208	ET399936	Transistor 2SC945(R)(S)	1
11-TR209	ET403042	Transistor 2SD234(Y)	1
11-TR251	ET408971	Transistor 2SC1013	1
11-TR252	ET403042	Transistor 2SD234(Y)	1
11-TR253	ET391138	Transistor 2SC968(3)(4)	1
11-D201, 2	ED224526	Silicon Diode 10D1	2
11-D204	ED224526	Silicon Diode 10D1	1
11-D251	ED329130	Silicon Diode 10DC-1(black)	1
11-D252	ED329128	Silicon Diode 10DC-1(red)	1
11-D253	ED384096	Zener Diode RD-9A	1
11-TH201	ED321390	Thermister 41D26	1
11-VR202	EV498060	Semi-fixed Volume V10K8-1-5 2k B(4US)	1
11-VR251	EV484863	Semi-fixed Volume V10K8-4-2 1k B	1
11-2	EZ407586	Heat-sink Plate B	1
11-3	ZW392940	Insulator Washer 1 G-473025-1	2
11-4	ZW421806	Screw, pan head 3x8	2
11-5	ZW273756	M3 Nut	4
11-6	EZ474017	Heat-sink Plate	1
11-7x	ZW413155	Screw, binding head 3x6	2
11-8	ZW413741	Screw, binding head 3x8	2
11-9x	ZW273802	M3 Toothed Lock Washer	1
11-10x	EZ473400	Servo P.C. Board Collar	2
11-11x	ZW413155	Screw, binding head 3x6	2
		Capacitor, Vertical Type	
11-C201	EC398957	Mylar 0.1μF(M) 50WV	1
11-C202	EC251190	Mylar 0.056μF(K) 50WV	1
11-C203	EC331705	Elect. 22μF 16WV	1
11-C204	EC379787	Mylar 0.0039μF(J) 50WV	1
11-C205	EC320051	Elect. 10μF 16WV	1
11-C206	EC250661	Mylar 0.0015μF(K) 50WV	1
11-C207	EC220151	Elect. 100μF 25WV	1
11-C208	EC350684	Elect. 22μF 25WV	1
11-C209	EC329850	VFM 220PF(J) 50WV	1

Symbol No.	Parts No.	Description	Q'ty
11-C210	EC424080	Styrol 0.051μF(F) 50WV (Tub. type)	1
11-C211	EC438524	Mylar 0.27μF(H) 100WV	1
11-C213	EC220994	Elect. 10μF 25WV	1
11-C215	EC368280	Solid Aluminum 33μF6.3WV	1
11-C216	EC220151	Elect. 100μF 25WV	1
11-C251, 2	EC403468	Elect. 330μF 50WV	2
11-C253	EC372148	Elect. 220μF 35WV	1
11-C254	EC331817	Elect. 470μF 25WV	1
11-C255	EC350684	Elect. 22μF 25WV	1
11-C257	EC450281	Elect. 0.47μF 50WV	1
		Resistor, Stopper Type	
11-R201	ER336442	Carbon RD1/4 10k(J)	1
11-R202	ER362441	Carbon RD1/4 1.8k(J)	1
11-R203	ER357456	Carbon RD1/4 2.2k(J)	1
11-R204	ER212264	Carbon RD1/4 22k(J)	1
11-R205, 6, 7	ER336442	Carbon RD1/4 10k(J)	3
11-R208	ER361642	Carbon RD1/4 47(J)	1
11-R209	ER211757	Carbon RD1/4 100k(J)	1
11-R210	ER357456	Carbon RD1/4 2.2k(J)	1
11-R211	ER212681	Carbon RD1/4 330(J)	1
11-R212	ER403187	Carbon RD1/4 10k(F)(P type)	1
11-R213	ER403097	Carbon RD1/4P 9.1k(F) (P type)	1
11-R214	ER212883	Carbon RD1/4 4.7k(J)	1
11-R217	ER306887	Carbon RD1/4 15k(J)	1
11-R218	ER212883	Carbon RD1/4 4.7k(J)	1
11-R219	ER357456	Carbon RD1/4 2.2k(J)	1
11-R220	ER211667	Carbon RD1/4 100(J)	1
11-R221	ER213030	Carbon RD1/4 5.6k(J)	1
11-R222, 3	ER357456	Carbon RD1/4 2.2k(J)	2
11-R224, 5	ER211465	Carbon RD1/4 1k(J)	2
11-R226	ER304290	Carbon RD1/4 10(J)	1
11-R227	ER306887	Carbon RD1/4 15k(J)	1
11-R228	ER424078	Carbon RD1/4 51(J)	1
11-R229	ER304402	Carbon RD1/4 470(J)	1
11-R251	ER357456	Carbon RD1/4 2.2k(J)	1
11-R252	ER212681	Carbon RD1/4 330(J)	1
11-R253	ER343078	Carbon RD1/4 2.7k(J)	1
11-R254	ER357456	Carbon RD1/4 2.2k(J)	1
11-R255	ER306843	Carbon RD1/4 1.2k(J)	1
11-R256	ER447682	Solid RC1/2 47(J)	1
11-R257	ER347038	Carbon RD1/4 270(J)	1

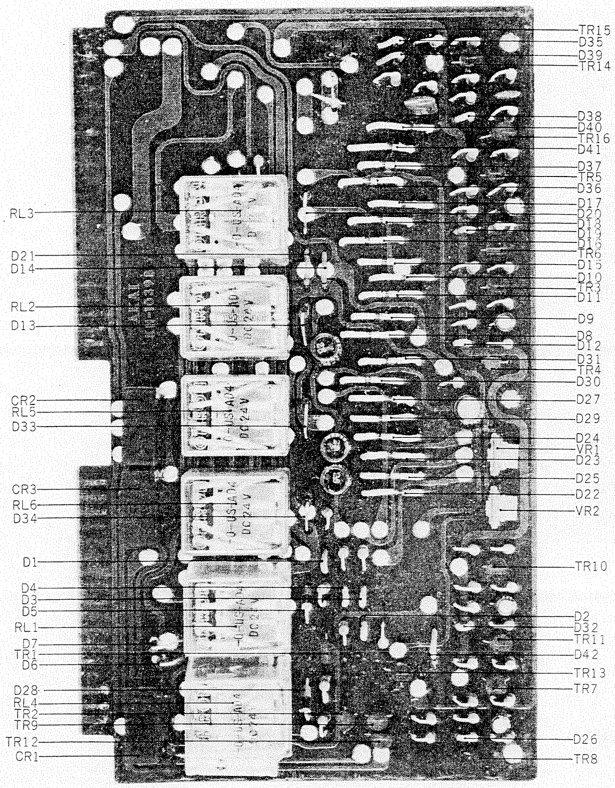
FIG. 12 (A) PHOTO OF SYS. CON. P.C. BOARD (KH-1009)



SYS. CON. P.C. BOARD (KH-1009) BLOCK

Symbol No.	Parts No.	Description	Q'ty
12-1x	BA482365	Sys. Con. P.C. Board Comp. (KH-1009)	1
12-TR1 to 10	ET398711	Transistor 2SC945(Q)(R)	10
12-TR11 to 13	ET338894	Transistor 2SC968(3)	3
12-TR14 to 17	ET398711	Transistor 2SC945(Q)(R)	4
12-D1 to 4	ED224526	Silicon Diode 10D1	4
12-D5 to 9	ED219464	Germanium Diode 1N34A	5
12-D10	ED224526	Silicon Diode 10D1	1
12-D11 to 14	ED219464	Germanium Diode 1N34A	4
12-D15 to 17	ED224526	Silicon Diode 10D1	3
12-D18 to 21	ED219464	Germanium Diode 1N34A	4
12-D22	ED224526	Silicon Diode 10D1	1
12-D23	ED219464	Germanium Diode 1N34A	1
12-D25	ED224550	Silicon Diode 10D4	1
12-D26, 7	ED219464	Germanium Diode 1N34A	2
12-RL1 to 6	EP344136	Relay MY4-0-US-AD4-24V	6
12-CR1 to 3	ER376424	Spark Quencher U/L 0.1μ+120 500WV	3
12-VR1	EV426936	Semi-fixed Volume V10K-5 30k B	1
12-VR2	EV221826	Semi-fixed Volume V10K-5 10k B	1
		Capacitor, Vertical Type	
12-C1 to 4	EC220612	Elect. 33μF 25WV	4
12-C5	EC350684	Elect. 22μF 25WV	1
12-C6	EC220994	Elect. 10μF 25WV	1
12-C7	EC308711	Mylar 0.047μF(K) 50WV	1
12-C8	EC220994	Elect. 10μF 25WV	1
12-C10, 11	EC220994	Elect. 10μF 25WV	2
12-C12, 3, 4	EC450055	Elect. 1μF 25WV	3
12-C16	EC273464	MP 0.1μF(M) 350WVDC (Tub. type)	1
12-C17	EC220432	Elect. 2.2μF 25WV	1
12-C19	EC220151	Elect. 100μF 25WV	1
12-C20	EC250885	Mylar 0.01μF(K) 50WV	1
		Resistor, Stopper Type	
12-R1	ER211465	Carbon RD1/4 1k(J)	1
12-R2	ER362485	Carbon RD1/4 330k(J)	1
12-R3	ER336442	Carbon RD1/4 10k(J)	1
12-R4, 5	ER212883	Carbon RD1/4 4.7k(J)	2
12-R6	ER362485	Carbon RD1/4 330k(J)	1
12-R7	ER212883	Carbon RD1/4 4.7k(J)	1
12-R8	ER211465	Carbon RD1/4 1k(J)	1
12-R9	ER212883	Carbon RD1/4 4.7k(J)	1
12-R10	ER357456	Carbon RD1/4 2.2k(J)	1
12-R11	ER343078	Carbon RD1/4 2.7k(J)	1
12-R12	ER212883	Carbon RD1/4 4.7k(J)	1
12-R13	ER357456	Carbon RD1/4 2.2k(J)	1
12-R14	ER343078	Carbon RD1/4 2.7k(J)	1
12-R15, 6	ER357535	Carbon RD1/4 39k(J)	2
12-R17	ER212264	Carbon RD1/4 22k(J)	1
12-R18	ER212883	Carbon RD1/4 4.7k(J)	1
12-R19	ER212264	Carbon RD1/4 22k(J)	1
12-R20, 1	ER362485	Carbon RD1/4 330k(J)	2
12-R22, 3	ER357535	Carbon RD1/4 39k(J)	2
12-R24, 5	ER212883	Carbon RD1/4 4.7k(J)	2
12-R26	ER357456	Carbon RD1/4 2.2k(J)	1
12-R27	ER343078	Carbon RD1/4 2.7k(J)	1
12-R28, 9	ER391623	Metal Oxide Film 1W 1k(K)	2
12-R30	ER357456	Carbon RD1/4 2.2k(J)	1
12-R31	ER213300	Carbon RD1/4 680(J)	1
12-R32	ER306843	Carbon RD1/4 1.2k(J)	1
12-R33	ER213300	Carbon RD1/4 680(J)	1
12-R34	ER211667	Carbon RD1/4 100(J)	1
12-R35, 6	ER212883	Carbon RD1/4 4.7k(J)	2
12-R37, 8	ER213030	Carbon RD1/4 5.6k(J)	2
12-R39	ER357412	Carbon RD1/4 220(J)	1
12-R40	ER212883	Carbon RD1/4 4.7k(J)	1
12-R41	ER211465	Carbon RD1/4 1k(J)	1
12-R42	ER213030	Carbon RD1/4 5.6k(J)	1
12-R43	ER211465	Carbon RD1/4 1k(J)	1
12-R44	ER212264	Carbon RD1/4 22k(J)	1
12-R45	ER343078	Carbon RD1/4 2.7k(J)	1
12-R46	ER212883	Carbon RD1/4 4.7k(J)	1
12-R47, 8, 9	ER212264	Carbon RD1/4 22k(J)	3
12-R50, 1	ER212883	Carbon RD1/4 4.7k(J)	2
12-R52, 3	ER212264	Carbon RD1/4 22k(J)	2
12-R54	ER212883	Carbon RD1/4 4.7k(J)	1
12-R55	ER346601	Carbon RD1/4 47k(J)	1
12-R56, 7	ER212264	Carbon RD1/4 22k(J)	2
12-R58	ER493110	Carbon RD1/4 2.2k(J)	1

FIG. 12 (B) PHOTO OF SYS. CON. P.C. BOARD (KH-1039)

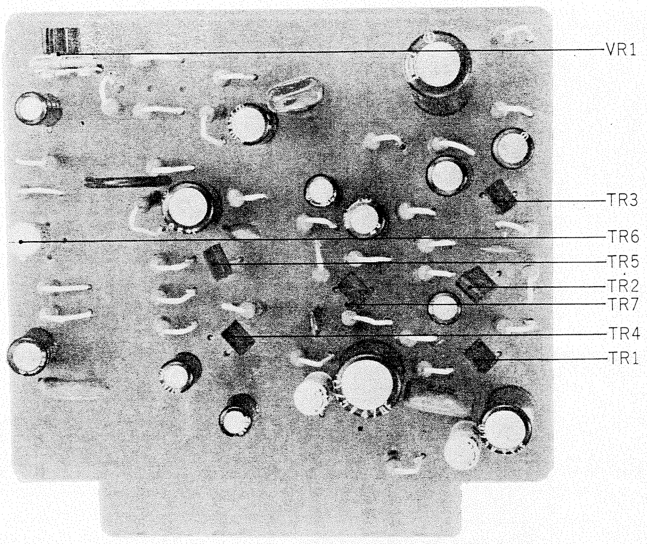


SYS. CON. P.C. BOARD (KH-1039) BLOCK

Symbol No.	Parts No.	Description	Q'ty
12-2x	BA515520	Sys. Con. P.C. Board (KH-1039)	1
12-TR1	ET515722	Transistor 2SC711 (D)(E)(F)	1
12-TR2	ET515700	Transistor 2SA628 (D)(E)(F)	1
12-TR3	ET515722	Transistor 2SC711 (D)(E)(F)	1
12-TR4	ET515733	Transistor 2SC945 (P)(Q)(R)(S)	1
12-TR5	ET515722	Transistor 2SC711 (D)(E)(F)	1
12-TR6	ET515733	Transistor 2SC945 (P)(Q)(R)(S)	1
12-TR7, 8	ET515722	Transistor 2SC711 (D)(E)(F)	2
12-TR9	ET515700	Transistor 2SA628 (D)(E)(F)	1
12-TR10, 1	ET515722	Transistor 2SC711 (D)(E)(F)	2
12-TR12	ET515700	Transistor 2SA628 (D)(E)(F)	1
12-TR13	ET515880	Transistor 2SA696 (C)(D)	1
12-TR14	ET515722	Transistor 2SC711 (D)(E)(F)	1
12-TR15	ET515700	Transistor 2SA628 (D)(E)(F)	1
12-TR16	ET515722	Transistor 2SC711 (D)(E)(F)	1
12-D1 to 4	ED514721	Silicon Diode WG-599	4
12-D5	ED224526	Silicon Diode 10D1	1
12-D6, 7	ED224550	Silicon Diode 10D4	2
12-D8 to 12	ED514721	Silicon Diode WG-599	5
12-D13	ED224526	Silicon Diode 10D1	1
12-D14 to 19	ED514721	Silicon Diode WG-599	6
12-D20	ED224526	Silicon Diode 10D1	1
12-D21 to 27	ED514721	Silicon Diode WG-599	7
12-D28	ED224526	Silicon Diode 10D1	1
12-D29 to 32	ED514721	Silicon Diode WG-599	4
12-D33, 34	ED224526	Silicon Diode 10D1	2
12-D35 to 42	ED514721	Silicon Diode WG-599	8
12-RL1 to 6	EP344136	Relay MY4-O-US-AD4-24V	6
12-CR1 to 3	ER376424	Spark Quencher 0.1μ+120 500WV	3
12-VR1, 2	EV513562	Semi-fixed Volume V10K8-1-5 100k B 4US	2

Symbol No.	Parts No.	Description	Q'ty
		Capacitor, Vertical Type	
12-C1, 2	EC450527	Elect. 4.7μF 25WV	2
12-C3 to 5	EC456041	Elect. 33μF 25WV	3
12-C6	EC273464	MP 0.1μF (M) 350WVDC (Tubular type)	1
12-C7 to 10	EC220432	Elect. 2.2μF 25WV	4
12-C11	EC220994	Elect. 10μF 25WV	1
12-C12	EC336126	Elect. 47μF 25WV	1
12-C13	EC251190	Mylar 0.056μF (K) 50WV	1
12-C14	EC251087	Mylar 0.022μF (K) 50WV	1
		Resistor, Stopper Type	
12-R1	ER211757	Carbon RD1/4 100k (J)	1
12-R2, 3	ER320207	Carbon RD1/4 47k (J)	2
12-R4	ER211465	Carbon RD1/4 1k (J)	1
12-R5, 6, 7	ER212883	Carbon RD1/4 4.7k (J)	3
12-R8	ER429996	Carbon RD1/4 470k (J)	1
12-R9	ER346601	Carbon RD1/4 47k (J)	1
12-R10 to 12	ER212883	Carbon RD1/4 4.7k (J)	3
12-R13	ER211465	Carbon RD1/4 1k (J)	1
12-R14	ER336442	Carbon RD1/4 10k (J)	1
12-R15	ER212883	Carbon RD1/4 4.7k (J)	1
12-R16	ER211465	Carbon RD1/4 1k (J)	1
12-R17, 8	ER212883	Carbon RD1/4 4.7k (J)	2
12-R19	ER211465	Carbon RD1/4 1k (J)	1
12-R20	ER336442	Carbon RD1/4 10k (J)	1
12-R21	ER212883	Carbon RD1/4 4.7k (J)	1
12-R22	ER211465	Carbon RD1/4 1k (J)	1
12-R23, 4	ER212883	Carbon RD1/4 4.7k (J)	2
12-R25	ER211465	Carbon RD1/4 1k (J)	1
12-R26	ER336442	Carbon RD1/4 10k (J)	1
12-R27	ER212883	Carbon RD1/4 4.7k (J)	1
12-R28	ER211465	Carbon RD1/4 1k (J)	1
12-R29 to 31	ER212883	Carbon RD1/4 4.7k (J)	3
12-R32	ER211465	Carbon RD1/4 1k (J)	1
12-R33	ER336442	Carbon RD1/4 10k (J)	1
12-R34	ER212883	Carbon RD1/4 4.7k (J)	1
12-R35	ER211465	Carbon RD1/4 1k (J)	1
12-R36	ER304290	Carbon RD1/4 10 (J)	1
12-R37	ER336442	Carbon RD1/4 10k (J)	1
12-R38	ER399723	Carbon RD1/4 4.7 (J)	1
12-R39, 40	ER212883	Carbon RD1/4 4.7k (J)	2
12-R41	ER211464	Carbon RD1/4 1k (J)	1
12-R43	ER336442	Carbon RD1/4 10k (J)	1
12-R44	ER212883	Carbon RD1/4 4.7k (J)	1
12-R45	ER346601	Carbon RD1/4 47k (J)	1
12-R46, 7	ER211465	Carbon RD1/4 1k (J)	2
12-R48	ER336442	Carbon RD1/4 10k (J)	1

FIG. 13 PHOTO OF REC. AMP. P.C. BOARD (KH-5013)

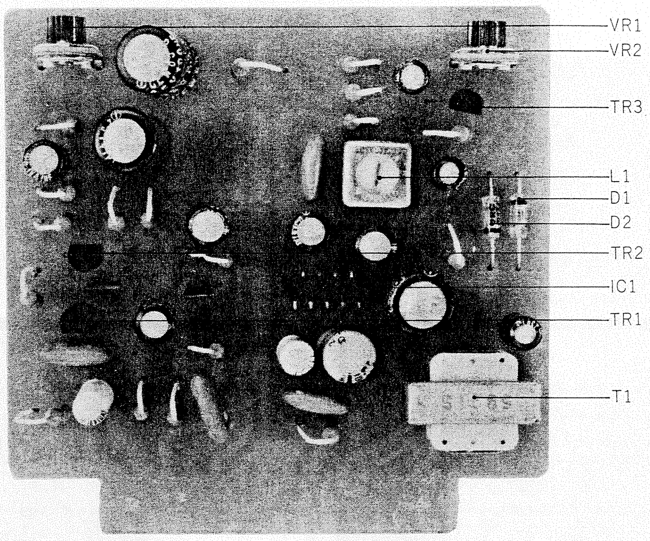


REC. AMP. P.C. BOARD (KH-5013) BLOCK

Symbol No.	Parts No.	Description	Q'ty
13-1x	BA482490	Rec. Amp. P.C. Board Comp. (KH-5013)	1
13-TR1, 2	ET234843	Transistor 2SC458LG(B)(C)	2
13-TR3	ET329242	Transistor 2SC454(C)	1
13-TR4	ET234843	Transistor 2SC458LG(B)(C)	1
13-TR5	ET329242	Transistor 2SC454(C)	1
13-TR6	ET338894	Transistor 2SC968(3)	1
13-TR7	ET234832	Transistor 2SC458LG(B)	1
13-VR1	EV221826	Semi-fixed Volume V10K-5 10k B	1
		Capacitor, Vertical Type	
13-C1	EC220612	Elect. 33μF 25WV	1
13-C2	EC432810	Elect. 10μF 16WV(noiseless)	1
13-C3	EC290586	VFM 470PF(K) 50WV	1
13-C4	EC220465	Elect. 22μF 6.3WV	1
13-C5	EC487394	VFM 47PF(K) 50WV	1
13-C6	EC329771	Elect. 47μF 6.3WV	1
13-C7	EC350684	Elect. 22μF 25WV	1
13-C8	EC220678	Elect. 47μF 25WV	1
13-C9	EC432810	Elect. 10μF 16WV(noiseless)	1
13-C10	EC250604	Mylar 0.001μF(K) 50WV	1
13-C11	EC220994	Elect. 10μF 25WV	1
13-C12	EC220465	Elect. 22μF 6.3WV	1
13-C13	EC220151	Elect. 100μF 25WV	1
13-C14	EC320051	Elect. 10μF 16WV	1
13-C16	EC220465	Elect. 22μF 6.3WV	1
13-C17	EC487394	VFM 47PF(K) 50WV	1
13-C18	EC320040	Elect. 47μF 16WV	1
13-C19	EC302253	Mylar 0.15μF(K) 50WV	1
13-C20	EC220994	Elect. 10μF 25WV	1
13-C23	EC320051	Elect. 10μF 16WV	1
13-C24	EC220994	Elect. 10μF 25WV	1
13-C25	EC423562	VFM 470PF(J) 50WV	1

Symbol No.	Parts No.	Description	Q'ty
		Resistor, Stopper Type	
13-R1	ER336442	Carbon RD1/4 10k(J)	1
13-R2, 3	ER383758	Carbon RD1/4 180k(J)(noiseless)	2
13-R4	ER349942	Carbon RD1/4 8.2k(J)	1
13-R5	ER212681	Carbon RD1/4 330(J)	1
13-R6	ER342933	Carbon RD1/4 27k(J)	1
13-R7, 8	ER346994	Carbon RD1/4 18k(J)	2
13-R9, 10	ER212477	Carbon RD1/4 3.3k(J)	2
13-R11	ER336442	Carbon RD1/4 10k(J)	1
13-R12	ER383758	Carbon RD1/4 180k(J) (noiseless)	1
13-R13	ER346601	Carbon RD1/4 47k(J)	1
13-R14	ER211858	Carbon RD1/4 12k(J)	1
13-R15	ER211465	Carbon RD1/4 1k(J)	1
13-R16	ER352045	Carbon RD1/4 3.9k(J)	1
13-R17, 8	ER213030	Carbon RD1/4 5.6k(J)	2
13-R19	ER450011	Carbon RD1/4 120k(J)	1
13-R20	ER213467	Carbon RD1/4 820(J)	1
13-R21	ER211757	Carbon RD1/4 100k(J)	1
13-R23	ER352045	Carbon RD1/4 3.9k(J)	1
13-R24	ER362441	Carbon RD1/4 1.8k(J)	1
13-R25	ER363644	Carbon RD1/4 560(J)	1
13-R26	ER342933	Carbon RD1/4 27k(J)	1
13-R27	ER361528	Carbon RD1/4 56k(J)	1
13-R28	ER212264	Carbon RD1/4 22k(J)	1
13-R29	ER380755	Carbon RD1/4 6.2k(J)	1
13-R30	ER212681	Carbon RD1/4 330(J)	1
13-R31	ER211858	Carbon RD1/4 12k(J)	1
13-R32	ER352045	Carbon RD1/4 3.9k(J)	1
13-R33	ER211465	Carbon RD1/4 1k(J)	1
13-R34	ER349784	Carbon RD1/4 390(J)	1
13-R35	ER212477	Carbon RD1/4 3.3k(J)	1

FIG. 14 PHOTO OF P.B. AMP. P.C. BOARD (KH-5014)



P.B. AMP. P.C. BOARD (KH-5014) BLOCK

Symbol No.	Parts No.	Description	Q'ty
14-1x	BA482501	P.B. Amp. P.C. Board Comp. (KH-5014)	1
14-IC1	EI412413	Line Amp. I.C. LD-3141	1
14-TR1, 2	ET399868	Transistor 2SC871(F)	2
14-TR3	ET398711	Transistor 2SC945(Q)(R)	1
14-D1, 2	ED219464	Germanium Diode 1N34A	2
14-T1	BT247768	Head Phone Trans. N19-5921S	1
14-L1	EO262484	DM Coil 10MH	1
14-VR1	EV221850	Semi-fixed Volume V10K-5 20k B	1
14-VR2	EV398812	Semi-fixed Volume V10K-5 5k B	1
		Capacitor, Vertical Type	
14-C1	EC432810	Elect. 10μF 16WV(noiseless)	1
14-C2	EC220678	Elect. 47μF 25WV	1
14-C3	EC290586	VFM 470PF(K) 50WV	1
14-C4	EC329771	Elect. 47μF 6.3WV	1
14-C5	EC377212	VFM 47PF(J) 50WV	1
14-C6	EC329771	Elect. 47μF 6.3WV	1
14-C7	EC429851	VFM 680PF(J) 50WV	1
14-C8	EC250841	Mylar 0.01μF(J) 50WV	1
14-C9	EC220994	Elect. 10μF 25WV	1
14-C10, 1	EC220151	Elect. 100μF 25WV	2
14-C12	EC432810	Elect. 10μF 16WV(noiseless)	1
14-C13	EC290564	VFM 220PF(K) 50WV	1
14-C14	EC329771	Elect. 47μF 6.3WV	1
14-C15	EC290564	VFM 220PF(K) 50WV	1
14-C16	EC220364	Elect. 100μF 6.3WV	1
14-C17	EC220994	Elect. 10μF 25WV	1
14-C18	EC450055	Elect. 1μF 25WV	1
14-C19	EC320051	Elect. 10μF 16WV	1
14-C20	EC450055	Elect. 1μF 25WV	1
		Resistor, Stopper Type	
14-R1, 2	ER427083	Carbon RD1/4 330k(J)(noiseless)	2
14-R3	ER336442	Carbon RD1/4 10k(J)	1
14-R4	ER212681	Carbon RD1/4 330(J)	1
14-R5	ER357570	Carbon RD1/4 150k(J)	1
14-R6	ER342933	Carbon RD1/4 27k(J)	1
14-R7	ER212883	Carbon RD1/4 4.7k(J)	1
14-R8	ER212477	Carbon RD1/4 3.3k(J)	1
14-R9	ER336442	Carbon RD1/4 10k(J)	1
14-R10	ER380711	Carbon RD1/4 220k(J)	1
14-R11	ER349907	Carbon RD1/4 33k(J)	1
14-R12	ER212883	Carbon RD1/4 4.7k(J)	1
14-R13	ER304402	Carbon RD1/4 470(J)	1
14-R14	ER336442	Carbon RD1/4 10k(J)	1
14-R15	ER212264	Carbon RD1/4 22k(J)	1
14-R16	ER429996	Carbon RD1/4 470k(J)	1
14-R17, 8	ER357456	Carbon RD1/4 2.2k(J)	2

FIG. 15 PHOTO OF OSC. P.C. BOARD (KH-5015)

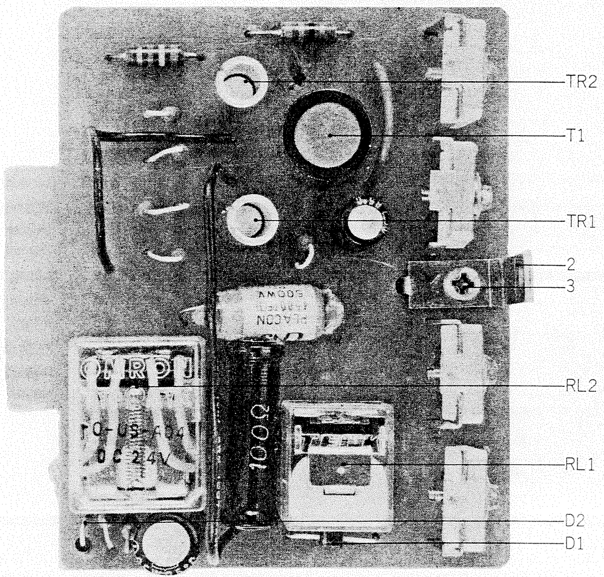
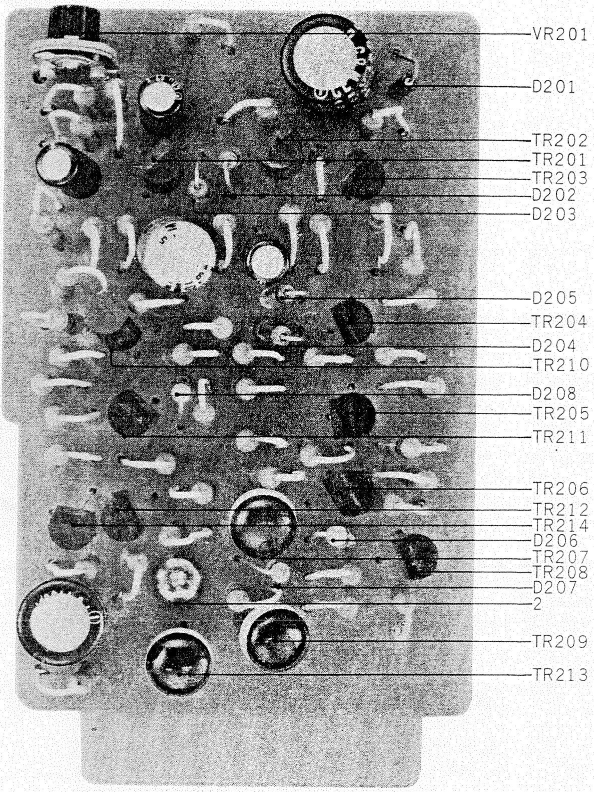


FIG. 16 PHOTO OF COM DETECTOR P.C. BOARD (RD-A514)



OSC. P.C. BOARD (KH-5015) BLOCK

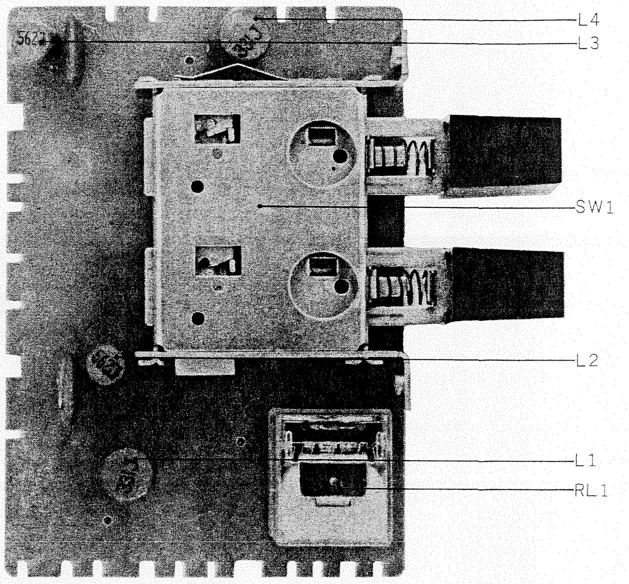
Symbol No.	Parts No.	Description	Q'ty
15-1x	BA482512	OSC. P.C. Board Comp. (KH-5015)	1
15-TR1, 2	ET304255	Transistor 2SC971(2)(3)(red)	2
15-T1	EO383365	OSC. Coil OT-204	1
15-D1, 2	ED224526	Silicon Diode 10D1	2
15-RL1	EP383321	Relay TECK-36 DC22V 1000	1
15-RL2	EP344136	Relay MY4-O-US-AD4-24V	1
15-2	EZ425226	P.C. Board Retaining Metal	1
15-3	ZW413155	Screw, binding head 3x6	1
15-4x	ZW273756	M3 Nut	1
		Capacitor, Vertical Type	
15-C1	EC350684	Elect. 22μF 25WV	1
15-C2, 3	EC250841	Mylar 0.01μF(J) 50WV	2
15-C4	EC442080	Plustic Film 4500PF(J) 500WV	1
15-C5 to 8	EC425250	Trimmer A-1P3-3 70PF	4
15-C9	EC220151	Elect. 100μF 25WV	1
		Resistor, Stopper Type	
15-R1	ER426892	Solid RC1/2W 2.4k(J)	1
15-R2	ER251684	Wire-wound 2WL 100(K) (L type)	1
15-R3, 4	ER315944	Carbon RD1/4 3.3(J)	2
15-R5	ER212883	Carbon RD1/4 4.7k(J)	1
15-R6	ER304402	Carbon RD1/4 470(J)	1
15-R7	ER455848	Solid RC1/2W 27(J)	1
15-R8	ER347038	Carbon RD1/4 270(J)	1
15-R9	ER211667	Carbon RD1/4 100(J)	1
15-R10	ER361642	Carbon RD1/4 47(J)	1

COM DETECTOR P.C. BOARD (RD-A514) BLOCK

Symbol No.	Parts No.	Description	Q'ty
16-1x	BA482523	COM Detector P.C. Board Comp. (RD-A514)	1
16-TR201	ET380834	Transistor 2SC711(E)	1
16-TR202,3,4	ET371935	Transistor 2SC711(D)	3
16-TR205, 6	ET380834	Transistor 2SC711(E)	2
16-TR207	ET383466	Transistor CDC9000-1(B)	1
16-TR208	ET380834	Transistor 2SC711(E)	1
16-TR209	ET383466	Transistor CDC9000-1(B)	1
16-TR210, 1	ET371935	Transistor 2SC711(D)	2
16-TR212	ET380834	Transistor 2SC711(E)	1
16-TR213	ET383466	Transistor CDC9000-1(B)	1
16-TR214	ET380834	Transistor 2SC711(E)	1
16-D201	ED321243	Zener Diode 1N759A	1
16-D202 to 8	ED219464	Germanium Diode 1N34A	7
16-VR201	EV221837	Semi-fixed Volume V10K-5 100k B	1
16-2	ZW201971	Screw, binding head 3x12	1
16-3x	EZ348647	Micro Switch Collar C	1
16-4x	EZ473477	COM P.C. Board Mt. Part	1
16-5x	ZW273756	M3 Nut	1
		Capacitor, Vertical Type	
16-C201	EC220151	Elect. 100μF 25WV	1
16-C202	EC313108	Elect. 1μF 50WV	1
16-C203	EC220364	Elect. 100μF 6.3WV	1
16-C204	EC450281	Elect. 0.47μF 50WV	1

Symbol No.	Parts No.	Description	Q'ty
16-C205	EC350706	Elect. 4.7μF 16WV	1
16-C206	EC220127	Elect. 100μF 16WV	1
		Resistor, Stopper Type	
16-R201	ER363644	Carbon RD1/4 560(J)	1
16-R202	ER346601	Carbon RD1/4 47k(J)	1
16-R203	ER212174	Carbon RD1/4 180k(J)	1
16-R204	ER346601	Carbon RD1/4 47k(J)	1
16-R205	ER306887	Carbon RD1/4 15k(J)	1
16-R206	ER363644	Carbon RD1/4 560(J)	1
16-R207	ER361642	Carbon RD1/4 47(J)	1
16-R208	ER346601	Carbon RD1/4 47k(J)	1
16-R209	ER357456	Carbon RD1/4 2.2k(J)	1
16-R210	ER336442	Carbon RD1/4 10k(J)	1
16-R211	ER357456	Carbon RD1/4 2.2k(J)	1
16-R212	ER212264	Carbon RD1/4 22k(J)	1
16-R213	ER336442	Carbon RD1/4 10k(J)	1
16-R214	ER361642	Carbon RD1/4 47(J)	1
16-R215	ER212264	Carbon RD1/4 22k(J)	1
16-R216	ER336442	Carbon RD1/4 10k(J)	1
16-R217, 8	ER213030	Carbon RD1/4 5.6k(J)	2
16-R219	ER212264	Carbon RD1/4 22k(J)	1
16-R220	ER361642	Carbon RD1/4 47(J)	1
16-R221	ER336442	Carbon RD1/4 10k(J)	1
16-R222	ER212883	Carbon RD1/4 4.7k(J)	1
16-R223, 4	ER371946	Carbon RD1/4 2k(J)	2
16-R225	ER212883	Carbon RD1/4 4.7k(J)	1
16-R226	ER336442	Carbon RD1/4 10k(J)	1
16-R227	ER212264	Carbon RD1/4 22k(J)	1
16-R228	ER380913	Carbon RD1/4 33(J)	1
16-R229, 30	ER213030	Carbon RD1/4 5.6k(J)	2
16-R231	ER212264	Carbon RD1/4 22k(J)	1
16-R232	ER336442	Carbon RD1/4 10k(J)	1
16-R233	ER213030	Carbon RD1/4 5.6k(J)	1
16-R234	ER212264	Carbon RD1/4 22k(J)	1
16-R235	ER361642	Carbon RD1/4 47(J)	1
16-R236	ER336442	Carbon RD1/4 10k(J)	1
16-R237	ER361642	Carbon RD1/4 47(J)	1
16-R238	ER213030	Carbon RD1/4 5.6k(J)	1
16-R239	ER212264	Carbon RD1/4 22k(J)	1
16-R240	ER336442	Carbon RD1/4 10k(J)	1
16-R241	ER212883	Carbon RD1/4 4.7k(J)	1
16-R242, 3	ER371946	Carbon RD1/4 2k(J)	2
16-R244	ER212883	Carbon RD1/4 4.7k(J)	1
16-R245	ER362441	Carbon RD1/4 1.8k(J)	1
16-R246	ER349942	Carbon RD1/4 8.2k(J)	1
16-R247	ER357456	Carbon RD1/4 2.2k(J)	1

FIG. 17 PHOTO OF TRACK SELECTOR P.C. BOARD (KH-5011)



TRACK SELECTOR P.C. BOARD (KH-5011) BLOCK

Symbol No.	Parts No.	Description	Q'ty
17-1x	BA482477	Track Selector P.C. Board Comp. (KH5011)	1
17-D1	ED224526	Silicon Diode 10D1	1
17-L1	EO495527	Ferri Inductor FL9H 330μH(J)	1
17-L2, 3	EO424888	Ferri Inductor FL5H 5.6MH(J)	2
17-L4	EO495527	Ferri Inductor FL9H 330μH(J)	1
17-RL1	EP383321	Relay TECK-36 DC22V 1000	1
17-SW1	ES411805	Push Switch UM21620C	1
17-C1, 2	EC337487	Hi-Q Capacitor 470PF(J) 50WV	2

FIG. 18 PHOTO OF MONITOR SWITCH P.C. BOARD (KH-5012)

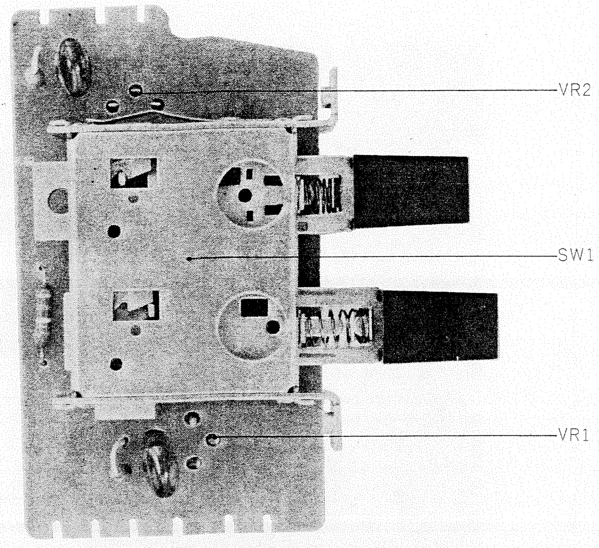
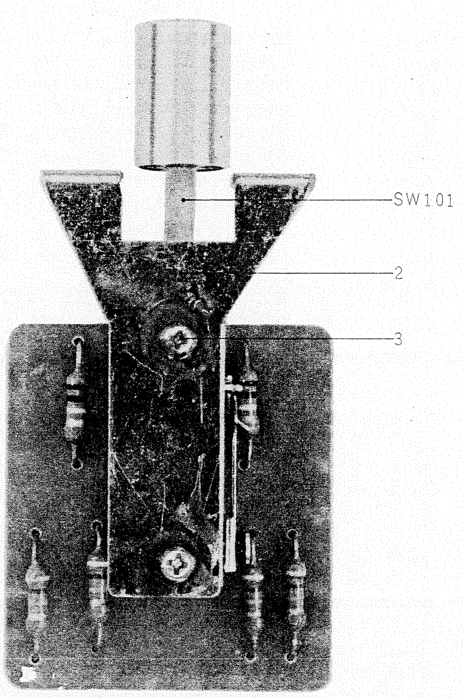


FIG. 19 PHOTO OF COM SWITCH P.C. BOARD (RD-525)



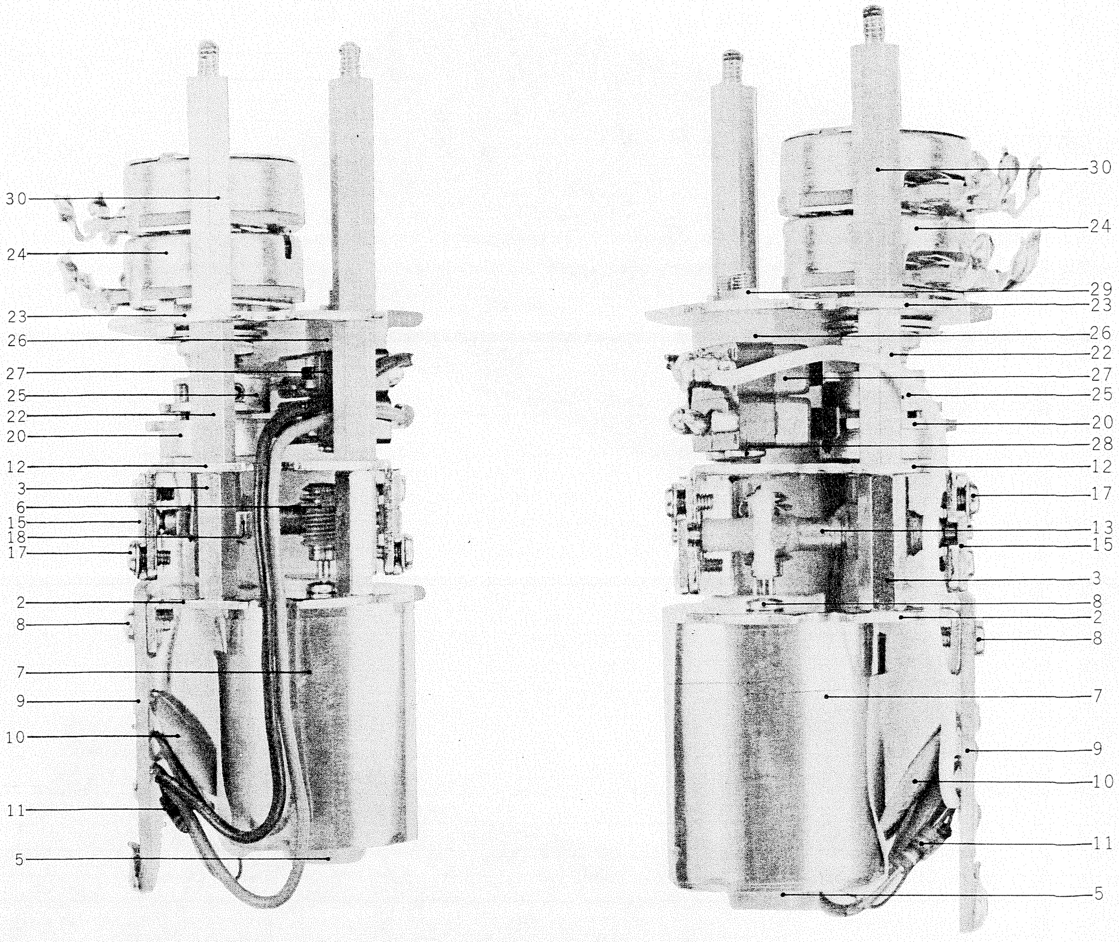
MONITOR SWITCH P.C. BOARD (KH-5012) BLOCK

Symbol No.	Parts No.	Description	Q'ty
18-1x	BA482488	Monitor Switch P.C. Board Comp. (KH-5012)	1
18-VR1, 2	EV482962	Semi-fixed Volume V-10K5-2-4 5k B, w/knob	2
18-SW1	ES245103	Push Switch UM21220J	1
18-C1, 2	EC389496	Mylar 0.068μF(J) 50WV (Vert. type)	2
		Resistor, Stopper Type	
18-R1	ER212264	Carbon RD1/4 22k(J)	1
18-R2	ER364994	Carbon RD1/4 39k(J) (Insu. type)	1
18-R3	ER212264	Carbon RD1/4 22k(J)	1

COM SWITCH P.C. BOARD (RD-525) BLOCK

Symbol No.	Parts No.	Description	Q'ty
19-1x	BA482455	COM Switch P.C. Board Comp. (RD-525)	1
19-SW1	ES482872	Push Switch UEG62BP, without knob	1
19-2	EZ472490	COM Switch Mt. Part	1
19-3	ZW202331	Screw, round head 2.6x4	2
		Resistor, Insulator Type	
19-R101 to 104	ER329308	Carbon RD1/4 47k(J)	4
19-R105, 6	ER213715	Carbon RD1/4 100k(J)	2

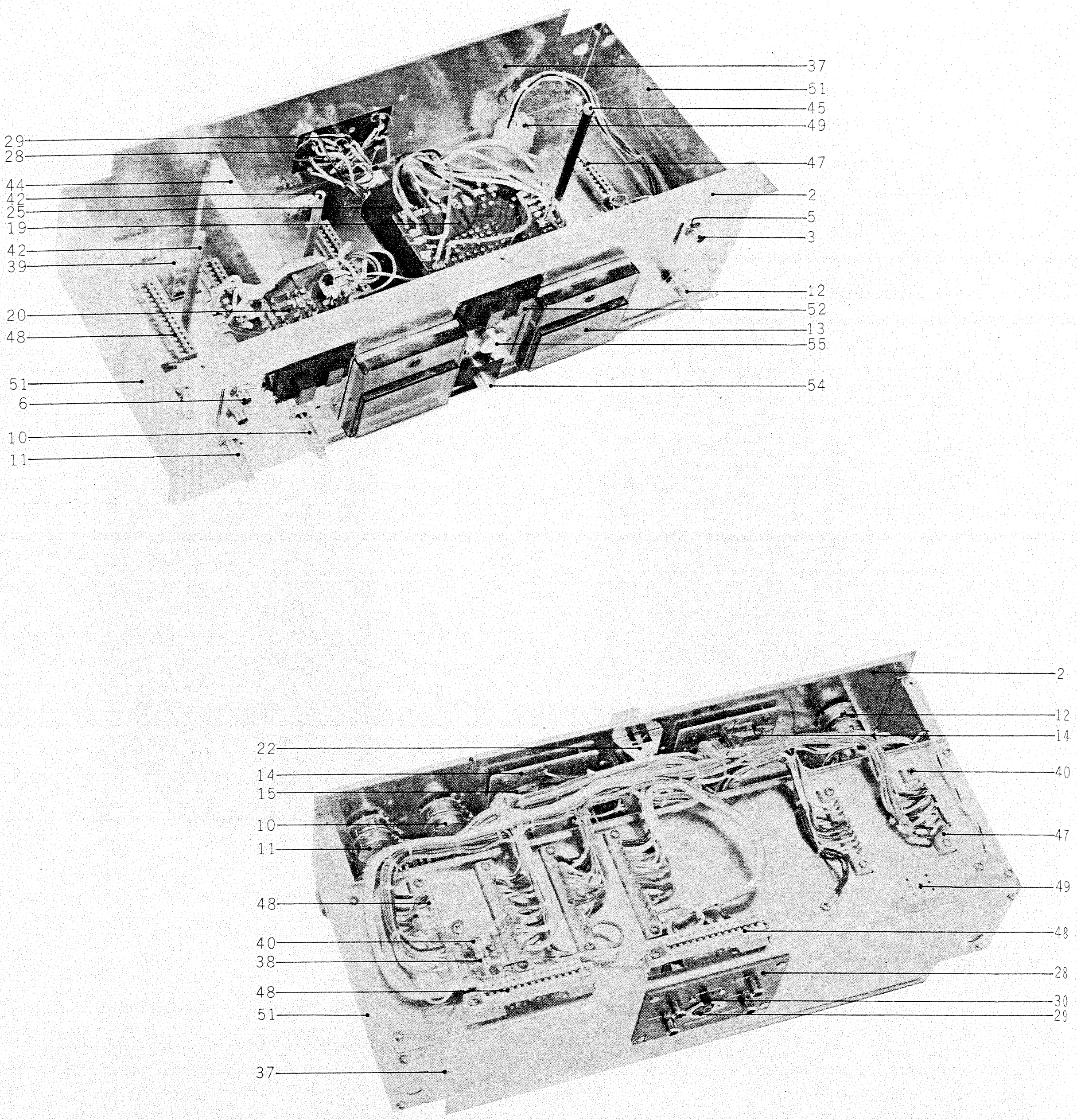
FIG. 20 PHOTO OF COM MECHANISM BLOCK



COM MECHANISM BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
20-1x	BM482466	COM Mechanism Block Comp.	KH, RDG	1
20-2	EZ262181	COM Motor Frame	RD-591	1
20-3	EZ262091	COM Prop C	RD-590	3
20-4x	ZW200362	Screw, countersunk head 3x5 D=5		3
20-5	BM250514	Micro Motor FM-36K 108700	53-1-1	1
20-6	EZ262023	COM Worm-Gear B	RD-597	1
20-7	EZ262067	COM Shield	RD-593	1
20-8	ZW201914	Screw, binding head 2.3x5		4
20-9	EA383128	Terminal P.C. Board	RD-A512	1
20-10	EC228745	Ceramic/C. YZ 0.1 μF(Z) 50WV	24-5-30	3
20-11	ER230185	Solid/R. RC1/4W 33(K)	35-5-1	2
20-12	EZ218147	Gear Frame	RD-582	1
20-13	MS222693	Sub Gear Shaft, w/gear	RD-584	1
20-14x	ZW259334	Washer (Polyslider) D2.05x3.5x0.25t		2
20-15	EZ228857	Center Plate	RD-583	2
20-16x	ZW269785	M2.3 Toothed Lock Washer		6
20-17	ZW201914	Screw, binding head 2.3x5		4
20-18	MS252887	Main Gear Shaft, w/gear	RD-585	1
20-19x	ZW383332	Washer (PBP)D3.1x5x0.1t		2
20-20	EZ383130	Clutch A, w/pin	RD-A509	1
20-21x	ZW313470	Set Screw 3x6.5(cup)		2
20-22	EZ262080	COM Prop B	RD-578	3
20-23	EZ262102	COM Switch Base	RD-577	1
20-24	EV326160	Dual-axial 2-throw/Vol. V24L5G(SP) N12.5R-100kx1	36-1-5	1
20-25	EZ383141	Clutch B	RD-A510	1
20-26	ZW383152	Switch Insulator Washer	RD-A511	1
20-27	ES250020	Micro Switch S-1AL	25-1-9	2
20-28	ZW383343	Screw, binding head 2.3x22		2
20-29	ZW273690	M2.3 Nut		2
20-30	MH473488	COM Mt. Prop	KH-5005	3
20-31x	EZ262056	COM Rubber Shield	RD-595	1

FIG. 21 PHOTO OF AMP. ASSEMBLY BLOCK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AMP. ASSEMBLY BLOCK

AMP. FRAME BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
21-1x	BZ482444	Amp. Frame Block Comp.	KH	1
21-2	EZ472577	Amp. Chassis A	KH-5001	1
21-3	EJ442078	Mic. Jack 3PMJ4	31-2-36	1
21-4x	ZW482927	Washer (SPC)D9.2x14x0.5t		1
21-5	ZW375153	E Jack Nut		3
21-6	EJ433844	Mic. Jack 2PMJ4	31-2-35	2
21-7x	EZ225180	Nylon Collar, Jack	LD-520	2
21-8x	ZW492884	Washer (Fiber)D9.2x14x0.5t		2
21-9x	ER213647	Carbon/R. RD1/4 10k(J) (Insu. type)	35-9-5	2
21-10	EV472588	Dual-axial Double/Vol. D24N 50k Ax2 (Line)	36-3-38	1
21-11	EV472590	Dual-axial Double/Vol. D24N 100k Ax2 (Mic)	36-3-39	1
21-12	EV403661	Double/Vol. (Frictional) DJ20A 10k Ax2 (Line out)	36-3-27	1
21-13	EM472612	VU Meter KL-250B-13	46-1-56	2
21-14	EA472601	Meter P.C. Board	KH-5007	2
21-15	EL295312	No. 2 Lamp 8V 0.2A	28-2-8	4
21-16x	ZG317968	Angle Spring	MR-14	6
21-17x	ZW424495	Washer (SPC)D3.1x8x1t		2
21-18x	ZW348107	M3 Iso Nut		6
21-19	BA482477	Track Selector P.C. Board Comp. (KH-5011)		1
21-20	BA482488	Monitor Switch P.C. Board Comp. (KH-5012)		1
21-21x	ZW371856	Iso Screw, binding head 3x5		2
21-22	BA482455	COM Switch P.C. Board Comp. (RD-525)		1
21-23x	ZW323728	Screw, binding head 3x5		2
21-24x	SZ510197	COM Insulator Plate	KH-5029	1
21-25	BM482466	COM Mechanism Block Comp.	KH.RDG	1
21-26x	ZW273756	M3 Nut		3

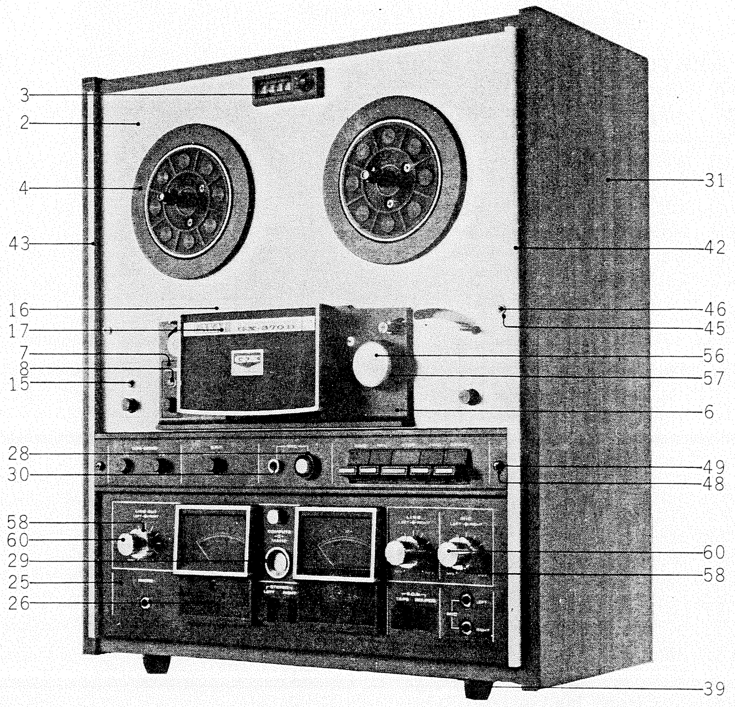
JACK PLATE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
21-27x	BZ482534	Jack Plate Block Comp.	KH	1
21-28	EJ452046	RDG Line Jack Plate	31-5-43	1
21-29	EJ378990	5P Din-Jack S-I 8123	31-1-1	1
21-30	ES379045	6P Slide Switch SJ-0282	25-3-36	1
21-31x	ZW410231	Screw, pan head 2.6x5		2
21-32x	ZW273778	M3 Earth Lug		1
21-33x	ER324685	Carbon/R. RD1/4 33k(J) (Insu. type)	35-9-5	2
21-34x	ER213873	Carbon/R. RD1/4 150k(J) (Insu. type)	35-9-5	2
21-35x	ER345712	Carbon/R. RD1/4 22k(J) (Insu. type)	35-9-5	2
21-36x	ER213647	Carbon/R. RD1/4 10k(J) (Insu. type)	35-9-5	2

AMP. ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
21-37	UM472522	Amp. Chassis B	KH-5002	1
21-38	EA472533	Rec. Relay P.C. Board	KH-5009	1
21-39	EP383321	Relay TECK-36 DC22V 1000	47-2-20	1
21-40	ZW447772	Tapping Screw 3x6(BR)		23
21-41x	ZW273778	M3 Earth Lug		4
21-42	MH472544	P.C. Board Retaining Prop	KH-5008	2
21-43x	ZW417150	Screw, pan head 4x6		2
21-44	EZ472555	Rec. Amp. Shield	KH-5017	1
21-45	MH472566	OSC. Retaining Prop	KH-5022	1
21-46x	ZW413155	Screw, binding head 3x6		1
21-47	EJ482793	10P Multi-Jack 3250-010-001	31-4-21	2
21-48	EJ368785	14P Multi-Jack 3250-014-001	31-4-14	6
21-49	EJ300508	9P Mate-N-Lock Plug Housing 1-480274-0	52-1-7	1
21-50x	EJ373634	Socket Contact 61115-1	52-1-1	7
21-51	EZ473771	Side Frame	KH-5003	2
21-52	SK474107	Push Knob	KH-5020	4
21-53x	EZ473782	Card Retainer A	KH-5018	1
21-54	SK436252	Knob B	KF-2019	1
21-55	SK493018	COM Knob	KH-5028	1

FIG. 22 PHOTO OF FINAL ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

MECH. PANEL BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
22-1x	BZ482264	Mech. Panel Block Comp.	KH	1
22-2	SP473556	Mech. Panel	KH-6001	1
22-3	SE486088	Counter Escutcheon B	KD-6008	1
22-4	SZ473567	Reel Protector	KH-6003	2
22-5x	ZW417137	Screw, binding head 3x4		12
22-6	SC473578	Head Cover Base	KH-6004	1
22-7	SM473591	Pause Name Plate	KH-6009	1
22-8	SZ409320	Illumination Escutcheon (orange)	61-5023	1
22-9x	SZ473580	Head Cover Rotation Base	KH-6005	1
22-10x	ZW413741	Screw, binding head 3x8		2
22-11x	SZ492030	Ball Case	KH-6034	1
22-12x	MV269965	Steel Ball D4		1
22-13x	ZG249107	Ball Retaining Spring	RD-632	1
22-14x	ZW383883	Set Screw 5x4(flat)		1
22-15	EZ426780	Illumination Escutcheon (red)	61-5023	1
22-16	SC473602	Head Cover	KH-6008	1
22-17	SM473613	Head Cover Plate	KH-6024	1
22-18x	MS473624	Head Cover Shaft	KH-6007	1
22-19x	SZ473635	Rolling Sleeve	KH-6006	1
22-20x	ZW434160	Set Screw, hexagon socket 3x3(cup)		2
22-21x	ZW482657	Set Screw, hexagon socket 4x3(cup)		1
22-22x	SZ487877	Stopper Rubber	KH-6033	2
22-23x	SZ473646	Stopper Rubber	KH-1020	2

AMP. PANEL BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
22-24x	BZ482253	Amp. Panel Block Comp.	KH	1
22-25	SP473804	Amp. Panel	KH-6018	1
22-26	SC473815	VU Meter Cover	KH-6020	2
22-27x	ZW487866	Screw, round head 2.6x6		6
22-28	EZ397890	Rec. Button Escutcheon	KD-5003	1
22-29	SZ492941	COM Guide	KH-6036	1
22-30	SZ436151	Lamp Escutcheon (red)	DF-6025	1

CASE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
22-31	BC482242	Case Block Comp.	KH	1
22-32x	SZ439694	Case Corner Angle	KD-6031	2
22-33x	ZW447963	Tapping Screw #1 3x10(truss)		8
22-34x	SZ382230	Ventilator (upper)	RD-A 404	1
22-35x	ZW439661	Screw, truss head 3x14 (without groove)		4
22-36x	ZW273756	M3 Nut		4
22-37x	SZ382241	Ventilator Retaining Plate	RD-A 405	1
22-38x	ZW200610	Tapping Screw #1 4x12(truss)		1
22-39	SZ377190	LM Rubber Foot	LM-404	4
22-40x	ZW419646	Washer (SPC)D4.5x9.8x0.5t		4
22-41x	ZW403571	Wood Screw, round head 4.5x20		4

FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
22-42	SP473703	Sash A (right)	KH-6023A	1
22-43	SP473714	Sash B (left)	KH-6023B	1
22-44x	ZW200384	Screw, countersunk head 3x6		2
22-45	ZW408418	Panel Washer	KD-6029	2
22-46	ZW203084	Screw, oval countersunk head 3x8		2
22-47x	ZW201150	Screw, truss head 3x6 (black)		2
22-48	SZ483737	Panel Washer B (black)	KD-6029	2
22-49	ZW482815	Screw, oval countersunk head 3x8		2
22-50x	ZW259806	Washer (SPC)D4.5x12.8x1t		6
22-51x	ZW487833	Tapping Screw #1 4x50(truss)		4
22-52x	SZ377190	LM Rubber Foot	LM-404	4
22-53x	ZW419646	Washer (SPC)D4.5x9.8x0.5t		4
22-54x	ZW434283	Tapping Screw #1 4x30(truss)		4
22-55x	ZW200621	Tapping Screw #1 4x25(truss)		2
22-56	SK425158	Pinch Roller Cap	MS-6020	1
22-57	MP424023	Pinch Roller (KD)	KD-1084	1
22-58	SK474063	Volume Knob B	KH-6011	3
22-59x	ZW487844	Set Screw, hexagon socket 3x7(cup)		3
22-60	SK474074	Volume Knob A	KH-6012	3
22-61x	ZW433001	Set Screw, hexagon socket 3x5(cup)		3
22-62x	EZ436217	Collar, Jack	MC-6006	3
22-63x	SZ473501	Ventilator Panel (back)	KH-6025	1
22-64x	ZW324448	Tapping Screw #1 3x10(truss)		4
22-65x	EF444183	Fuse 1.5A 250V	39-141	1
22-66x	EF277413	Fuse ST-2 2A	39-126	1
22-67x	EF338387	Fuse ST-2 1.5A	39-126	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

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BA482387	9-1x
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BA482398	6-25x
BA482455	19-1x
BA482455	21-22
BA482477	17-1x
BA482477	21-19
BA482488	18-1x
BA482488	21-20
BA482490	13-1x
BA482501	14-1x
BA482512	15-1x
BA482523	16-1x
BA482578	7-14
BA495808	10-1x
BA515520	12-2x
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BH482310	1-1x
BL482422	4-1x
BM250514	20-5
BM314741	3-1
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BM482466	20-1x
BM482466	21-25
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ER346601	13-R13	ER455848	15-R7	EV498060	11-VR202	MB314987	8-76	MZ472667	6-6
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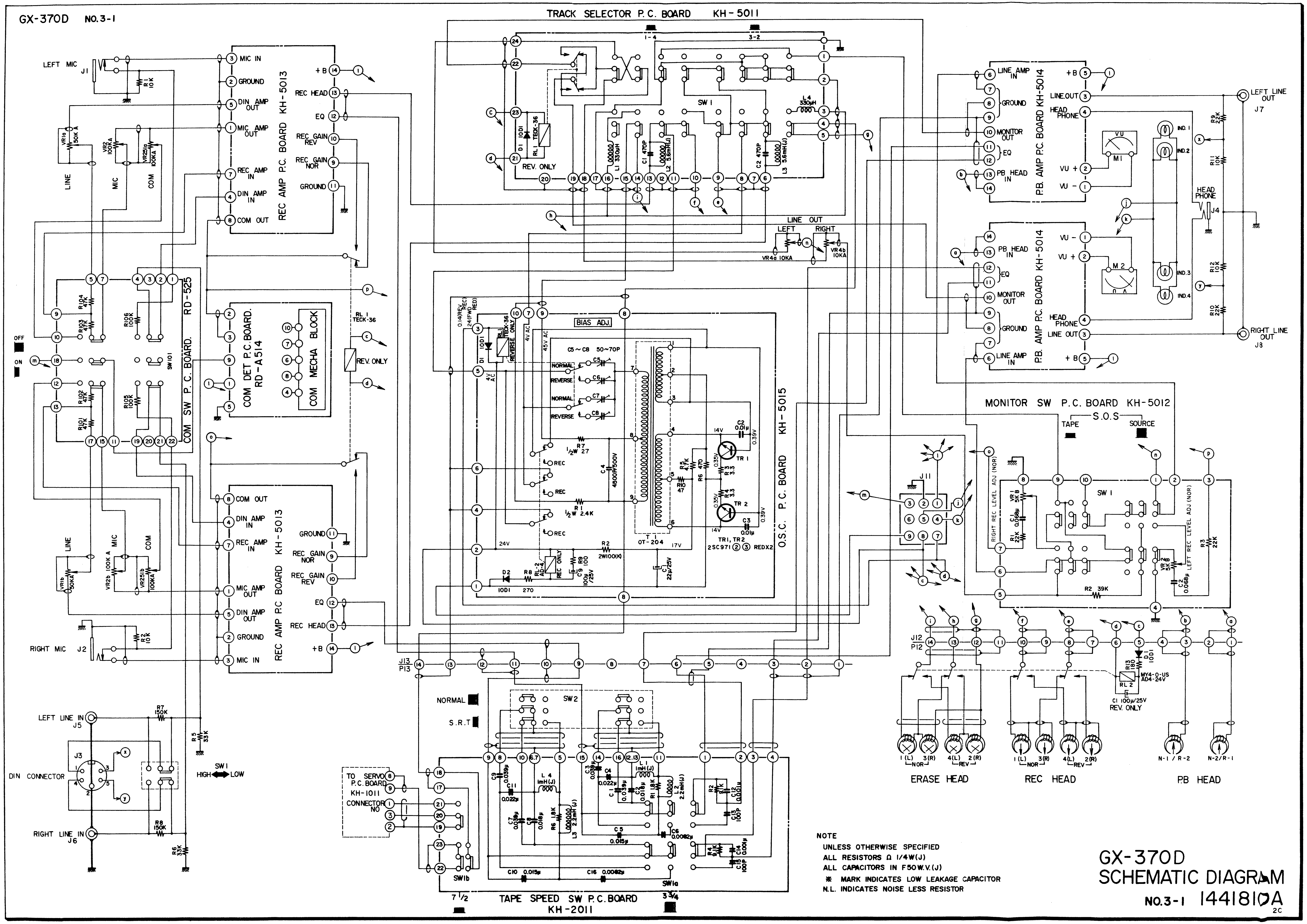
SECTION 3

SCHEMATIC DIAGRAM

GX-370D SCHEMATIC DIAGRAM

GX-370D NO.3-1


TRACK SELECTOR P.C. BOARD KH-5011
REC AMP P.C. BOARD KH-5013
COM SW P.C. BOARD RD-525
COM DET P.C. BOARD RD-A514
COM MECHA BLOCK
O.S.C. P.C. BOARD KH-5015
BIAS ADJ.
P.B. AMP P.C. BOARD KH-5014
MONITOR SW P.C. BOARD KH-5012
S.O.S
TAPE
SOURCE
TAPE SPEED SW P.C. BOARD KH-2011
NORMAL
S.R.T
7 1/2
3 3/4
TO SERVO P.C. BOARD KH-1011 CONNECTOR NO
LEFT MIC J1
RIGHT MIC J2
LEFT LINE IN J5
RIGHT LINE IN J6
DIN CONNECTOR J3
LEFT LINE OUT J7
RIGHT LINE OUT J8
HEAD PHONE J4
LINE OUT
LEFT
RIGHT
VR4a 10KA
VR4b 10KA
RL 1 TECK-36
REV. ONLY
SW1 HIGH LOW
OFF
ON
ERASE HEAD
REC HEAD
P.B HEAD
NOR
REV
N-1 / R-2
N-2 / R-1
TR1, TR2 2SC971②③ REDX2
T1 OT-204
C5～C8 50～70P
MY4-O-US AD4-24V
C1 100μ/25V REV. ONLY

NOTE

UNLESS OTHERWISE SPECIFIED

ALL RESISTORS Ω 1/4W(J)

ALL CAPACITORS IN F50W.V.(J)

※ MARK INDICATES LOW LEAKAGE CAPACITOR

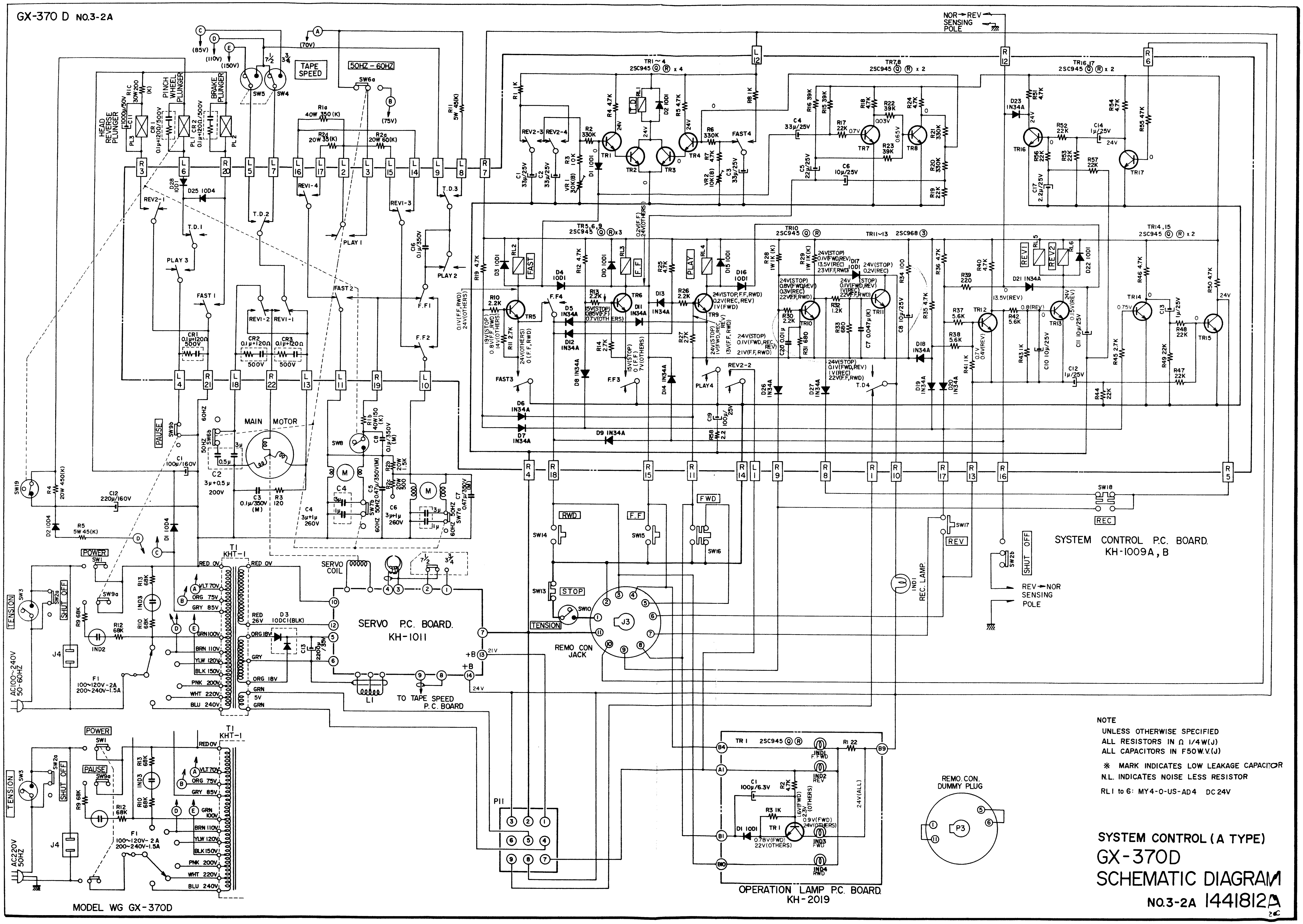
N.L. INDICATES NOISE LESS RESISTOR

GX-370D SCHEMATIC DIAGRAM

NO.3-1 1441810A

2C

GX-370 D NO.3-2A


NOR→REV SENSING POLE
TAPE SPEED
50HZ - 60HZ
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TR1~4 2SC945 Q R x 4
TR7,8 2SC945 Q R x 2
TR16,17 2SC945 Q R x 2
TR5,6,9 2SC945 Q R x3
TR10 2SC945 Q R
TR11~13 2SC968 3
TR14,15 2SC945 Q R x 2
MAIN MOTOR
PAUSE
POWER
TENSION
SHUT OFF
AC100~240V 50-60HZ
F1 100~120V-2A 200~240V-1.5A
T1 KHT-1
SERVO COIL
SERVO P.C. BOARD. KH-1011
TO TAPE SPEED P.C. BOARD
REMO CON JACK
RWD
F.F
FWD
STOP
REC
REV
REC. LAMP
REV→NOR SENSING POLE
SYSTEM CONTROL P.C. BOARD. KH-1009A, B
OPERATION LAMP P.C. BOARD. KH-2019
REMO. CON. DUMMY PLUG
AC220V 50HZ
MODEL WG GX-370D

NOTE

UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN Ω 1/4W(J)

ALL CAPACITORS IN F50W.V.(J)

※ MARK INDICATES LOW LEAKAGE CAPACITOR

N.L. INDICATES NOISE LESS RESISTOR

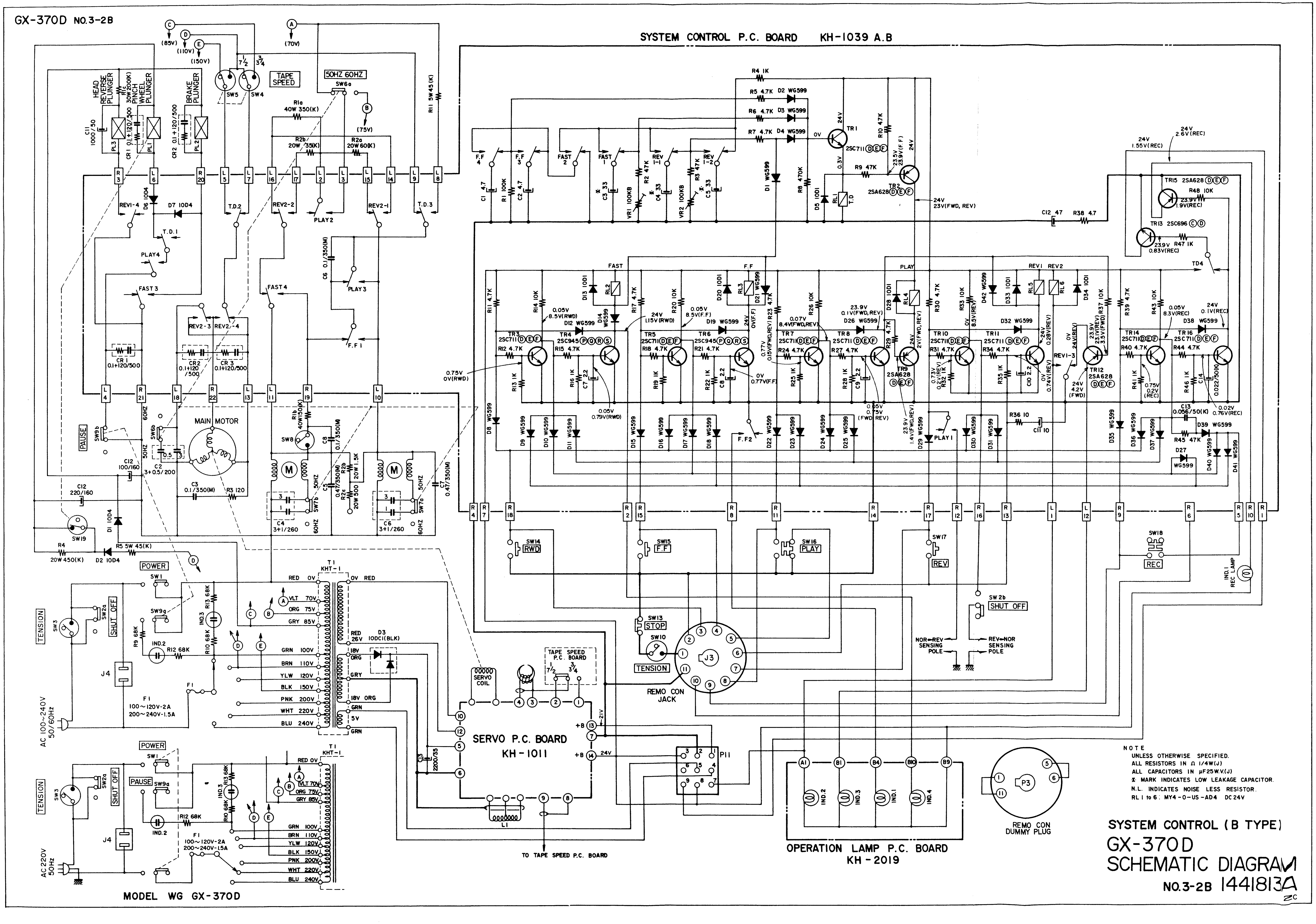
RL1 to 6: MY4-0-US-AD4 DC 24V

SYSTEM CONTROL (A TYPE)

GX-370D SCHEMATIC DIAGRAM

NO.3-2A 1441812A

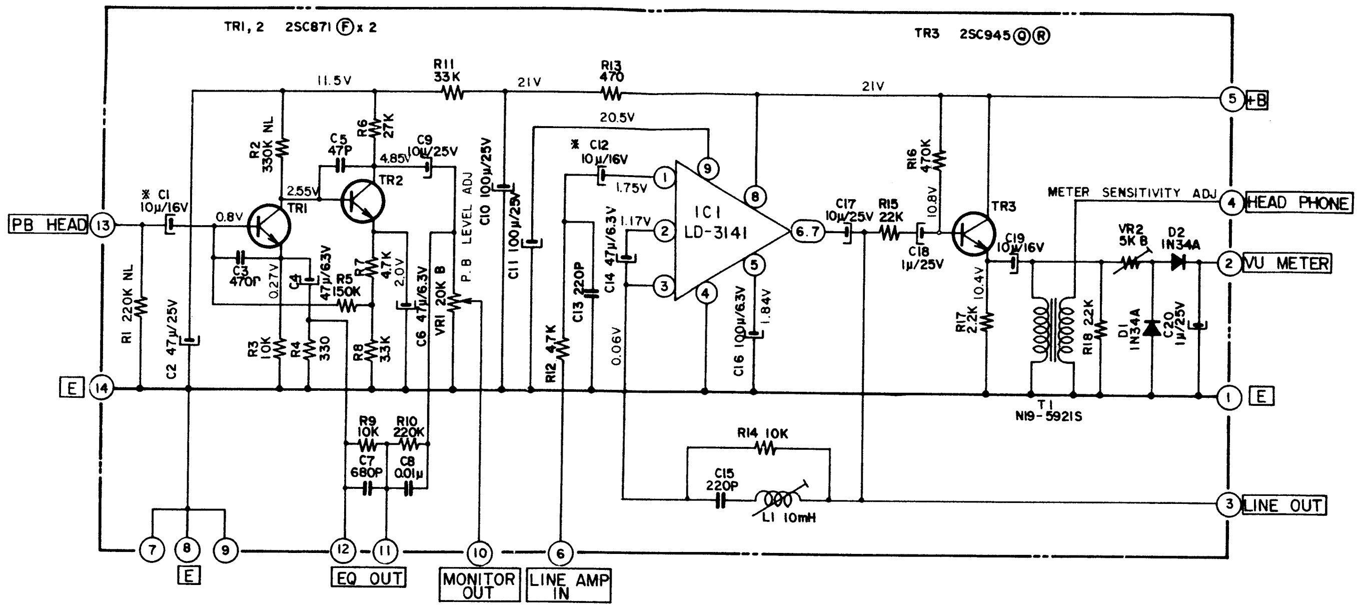
GX-370D NO.3-2B


SYSTEM CONTROL P.C. BOARD KH-1039 A.B
HEAD REVERSE PLUNGER
PINCH WHEEL PLUNGER
BRAKE PLUNGER
TAPE SPEED
50HZ 60HZ
SW6a
SW5
SW4
7 1/2
3 3/4
(85V)
(110V)
(150V)
(70V)
(75V)
R1a 40W 350(K)
R2b 20W 35(K)
R2a 20W 60(K)
R11 5W 45(K)
C11 1000/50
CR1 0.1+120/500
CR2 0.1+120/500
PL1
PL2
PL3
REV1-4
D6 10D4
D7 10D4
T.D.1
T.D.2
T.D.3
PLAY4
PLAY2
PLAY3
REV2-2
REV2-1
REV2-3
REV2-4
FAST3
FAST4
F.F1
F.F2
C6 0.1/350(M)
CR 1 0.1+120/500
CR2 0.1+120/500
CR 3 0.1+120/500
MAIN MOTOR
PAUSE
SW9b
SW6b
60HZ
50HZ
C12 100/160
C2 3+0.5/200
C3 0.1/350(M)
R3 120
C12 220/160
R1b 40W150(K)
SW8
C8 0.1/350(M)
C5 0.47/350(M)
R2b 20W 1.5K
R2c 20W 500
C7 0.47/350(M)
SW7b
SW7a
C4 3+1/260
C6 3+1/260
SW19
D1 10D4
D2 10D4
R4 20W 450(K)
R5 5W 45(K)
POWER
SW1
SW9a
SW2a
SHUT OFF
SW3
TENSION
J4
R9 68K
IND.2
R12 68K
R13 68K
IND.3
R10 68K
F1
F1 100~120V-2A 200~240V-1.5A
AC 100~240V 50/60Hz
T1 KHT-1
RED 0V
VLT 70V
ORG 75V
GRY 85V
GRN 100V
BRN 110V
YLW 120V
BLK 150V
PNK 200V
WHT 220V
BLU 240V
0V RED
RED 26V
D3 10DC1(BLK)
18V ORG
GRY
18V ORG
GRN
5V
GRN
TR1 2SC711 ⒹⒺⒻ
TR2 2SA628 ⒹⒺⒻ
RL1
T.D
R4 1K
R5 4.7K
R6 4.7K
R7 4.7K
D2 WG599
D3 WG599
D4 WG599
R9 47K
R10 4.7K
R8 470K
D1 WG599
D5 10D1
F.F 4
F.F 3
FAST 2
FAST 1
REV I
REV -2
C1 4.7
R1 100K
C2 4.7
C3 33
R2 47K
C4 33
VR1 100KB
R3 47K
C5 33
VR2 100KB
24V 23V(FWD, REV)
C12 47
R38 4.7
TR15 2SA628 ⒹⒺⒻ
R48 10K
TR13 2SC696 ⒸⒹ
R47 1K
TD4
24V 1.55V(REC)
24V 2.6V(REC)
23.9V 1.9V(REC)
23.9V 0.83V(REC)
FAST
F.F
PLAY
REV1
REV2
RL2
RL3
RL4
RL5
RL6
TR3 2SC711 ⒹⒺⒻ
TR4 2SC945 ⓅⓆⓇⓈ
TR5 2SC711 ⒹⒺⒻ
TR6 2SC945 ⓅⓆⓇⓈ
TR7 2SC711 ⒹⒺⒻ
TR8 2SC711 ⒹⒺⒻ
TR9 2SA628 ⒹⒺⒻ
TR10 2SC711 ⒹⒺⒻ
TR11 2SC711 ⒹⒺⒻ
TR12 2SA628 ⒹⒺⒻ
TR14 2SC711 ⒹⒺⒻ
TR16 2SC711 ⒹⒺⒻ
0.05V 8.5V(RWD)
0.75V 0V(RWD)
0.05V 0.79V(RWD)
24V 1.15V(RWD)
0.05V 8.5V(F.F)
0V 0.77V(F.F)
0.07V 8.4V(FWD,REV)
23.9V 0.1V(FWD,REV)
0.05V 0.75V(FWD REV)
23.9V 1.4V(FWD,REV)
24V 2V(FWD,REV)
0V 8.5V(REV)
24V 0.28V(REV)
0V 0.74V(REV)
24V 4.2V (FWD)
23.9V 23V(REV) 3.5V(FWD)
0.05V 8.3V(REC)
24V 0.1V(REC)
0.75V 0.2V (REC)
0.02V 0.76V(REC)
C13 0.056/50(K)
C14 0.022/50(K)
R36 10
C11 10
D39 WG599
R45 47K
D27 WG599
PLAY1
REV1-3
SW14 RWD
SW15 F.F
SW16 PLAY
SW17 REV
SW18 REC
IND.1 REC LAMP
SW2b SHUT OFF
NOR→REV SENSING POLE
REV→NOR SENSING POLE
SW13 STOP
SW10 TENSION
J3
REMO CON JACK
SERVO COIL
TAPE SPEED P.C. BOARD
SERVO P.C. BOARD KH-1011
C13 2200/35
L1
21V
24V
+B
P11
TO TAPE SPEED P.C. BOARD
A1
B1
B4
B10
B9
IND.2
IND.3
IND.1
IND.4
OPERATION LAMP P.C. BOARD KH-2019
P3
REMO CON DUMMY PLUG
AC 220V 50Hz
MODEL WG GX-370D

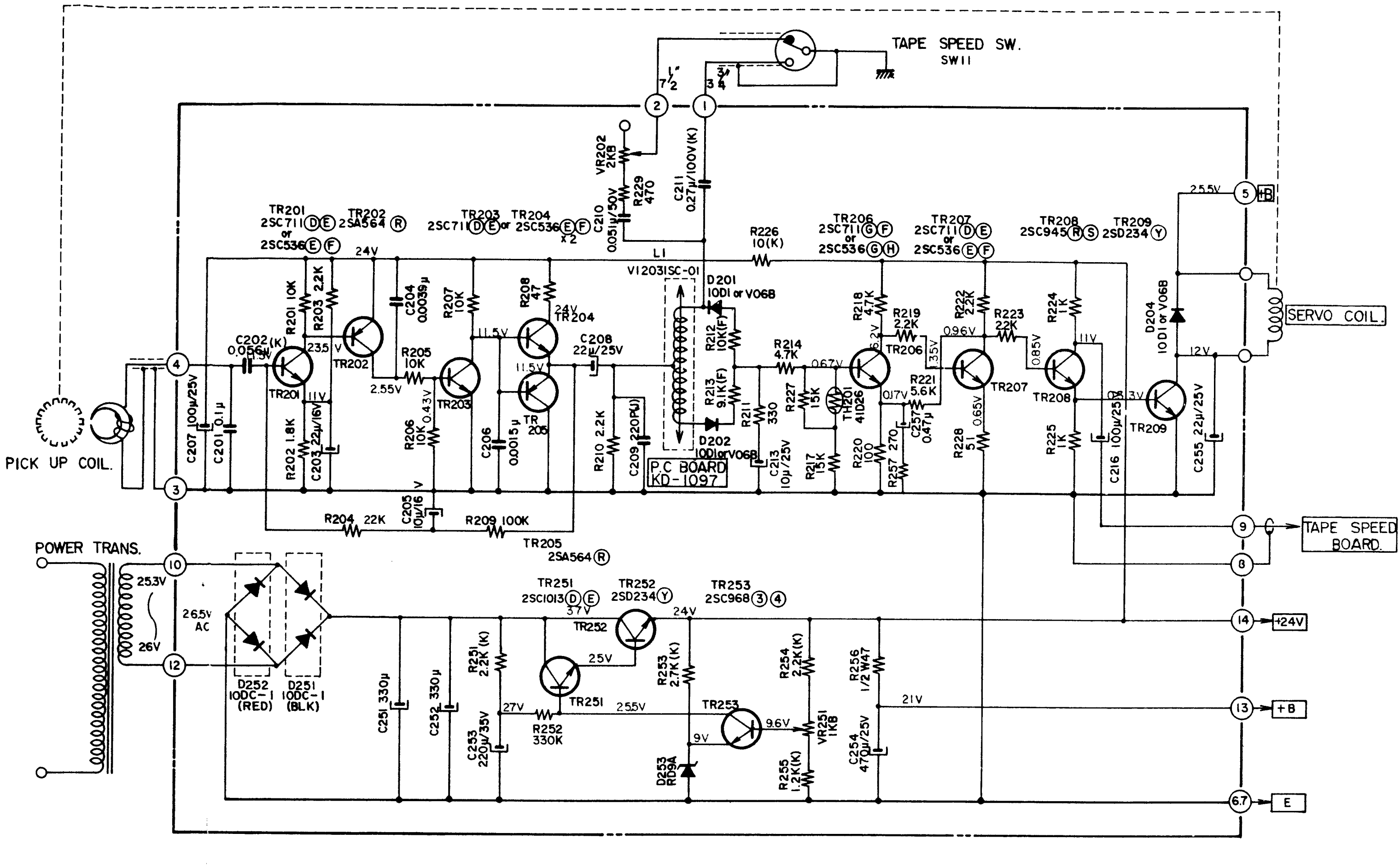
NOTE
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN μF25W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR.
N.L. INDICATES NOISE LESS RESISTOR.
RL1 to 6. MY4-0-US-AD4 DC24V

SYSTEM CONTROL (B TYPE)

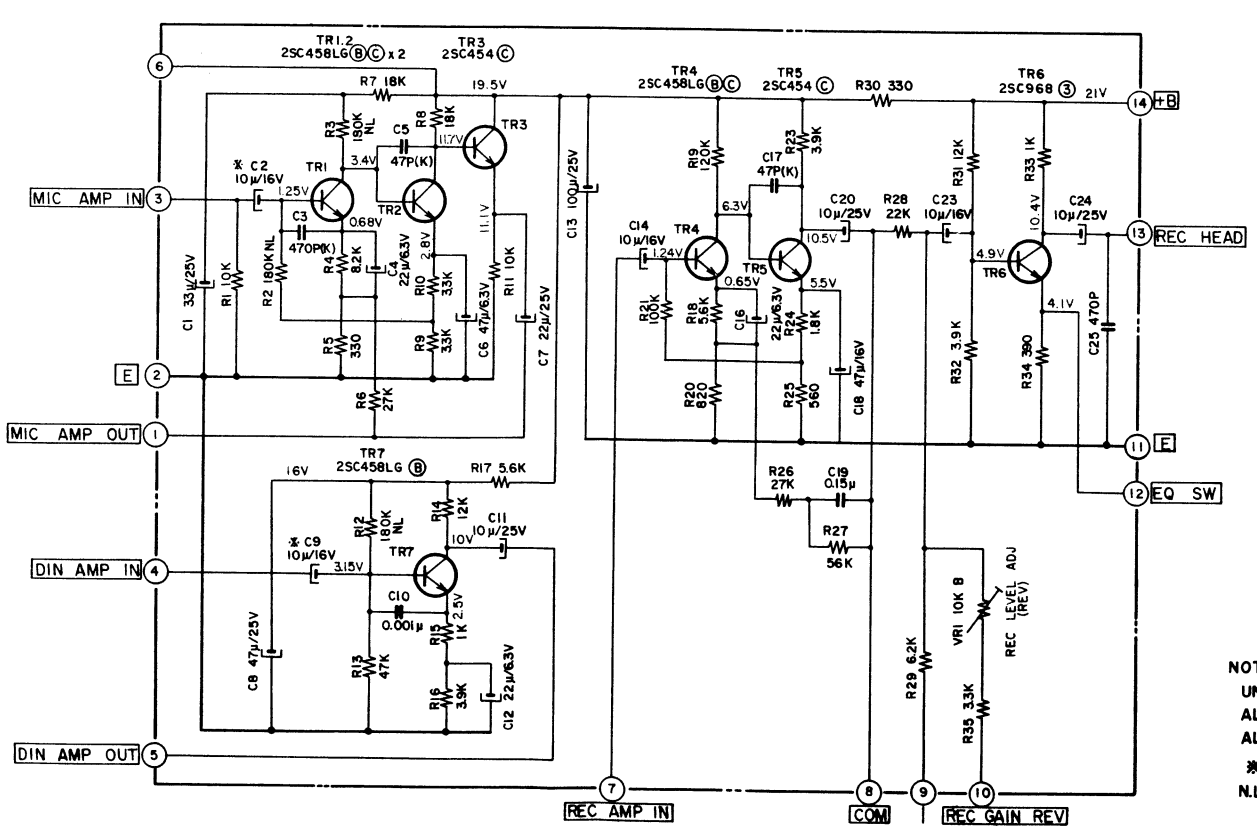
GX-370D
SCHEMATIC DIAGRAM
NO.3-2B 1441813A


TR1, 2 2SC871 (F) x 2
TR3 2SC945 (Q)(R)
IC1 LD-3141
PB HEAD
+B
HEAD PHONE
VU METER
LINE OUT
METER SENSITIVITY ADJ
P.B LEVEL ADJ
T1 N19-5921S
L1 10mH
EQ OUT
MONITOR OUT
LINE AMP IN
E

P.B. AMP P.C. BORAD KH-5014

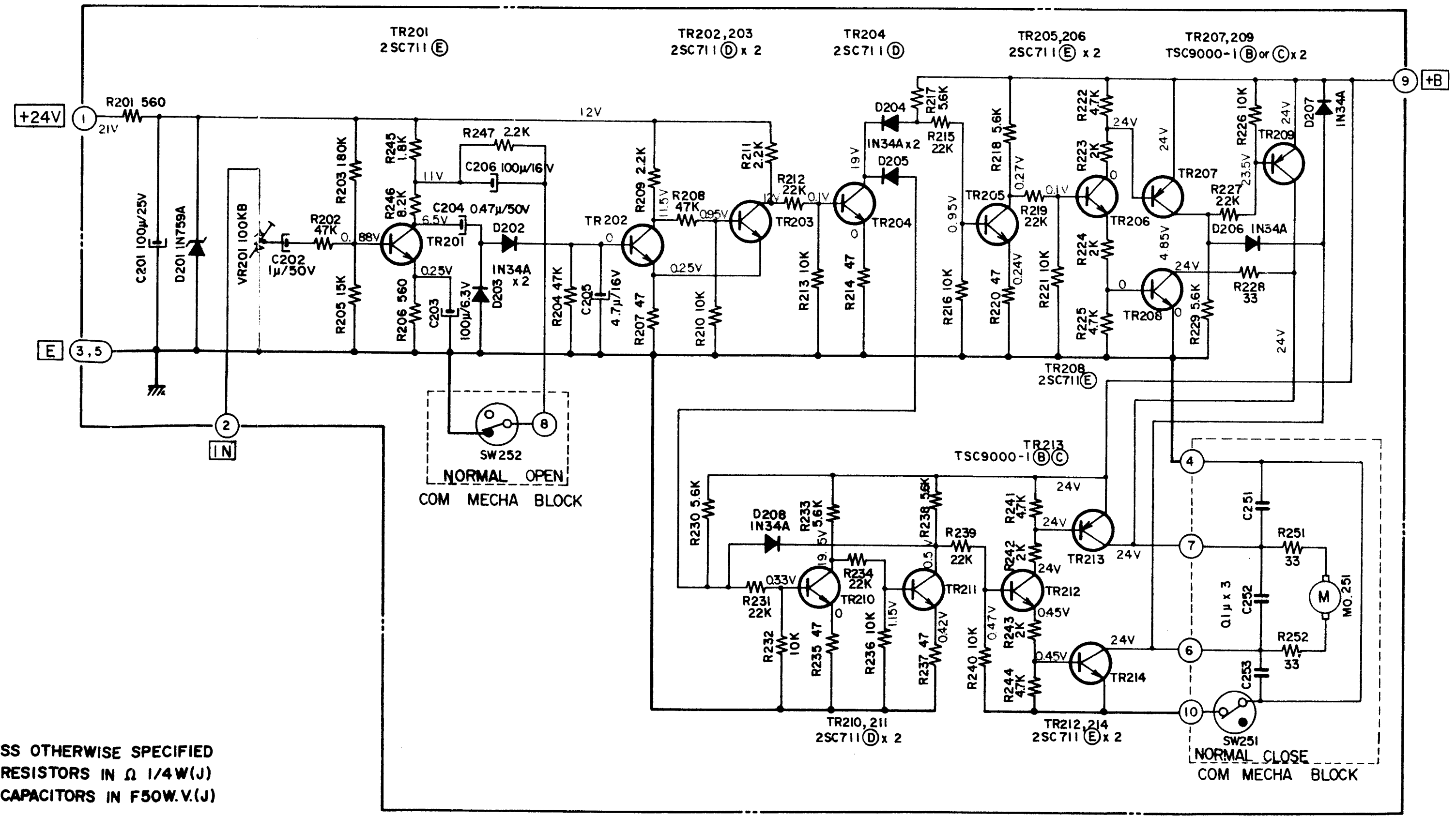

TAPE SPEED SW. SW11
TR201 2SC711 (D)(E) or 2SC536 (E)(F)
TR202 2SA564 (R)
TR203 2SC711 (D)(E) TR204 or 2SC536 (E)(F) x 2
TR205 2SA564 (R)
TR206 2SC711 (G)(F) or 2SC536 (G)(H)
TR207 2SC711 (D)(E) or 2SC536 (E)(F)
TR208 2SC945 (R)(S)
TR209 2SD234 (Y)
TR251 2SC1013 (D)(E)
TR252 2SD234 (Y)
TR253 2SC968 (3)(4)
SERVO COIL
PICK UP COIL
POWER TRANS.
P.C BOARD KD-1097
TAPE SPEED BOARD
D252 10DC-1 (RED)
D251 10DC-1 (BLK)
+24V
+B
E

SERVO P.C. BOARD KH-1011


TR1,2 2SC458LG (B)(C) x 2
TR3 2SC454 (C)
TR4 2SC458LG (B)(C)
TR5 2SC454 (C)
TR6 2SC968 (3)
TR7 2SC458LG (B)
MIC AMP IN
MIC AMP OUT
DIN AMP IN
DIN AMP OUT
REC HEAD
EQ SW
REC LEVEL ADJ (REV)
REC AMP IN
COM
REC GAIN IN
REC GAIN REV
+B
E

REC AMP P.C. BOARD KH-5013

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω 1/4W(J)
ALL CAPACITORS IN F50W.V.(J)
※ MARK INDICATES LOW LEAKAGE CAPACITOR
N.L. INDICATES NOISE LESS RESISTOR


TR201 2SC711 (E)
TR202,203 2SC711 (D) x 2
TR204 2SC711 (D)
TR205,206 2SC711 (E) x 2
TR207,209 TSC9000-1 (B) or (C) x 2
TR208 2SC711 (E)
TR213 TSC9000-1 (B)(C)
TR210, 211 2SC711 (D) x 2
TR212, 214 2SC711 (E) x 2
+24V
+B
E
IN
SW252 NORMAL OPEN
COM MECHA BLOCK
SW251 NORMAL CLOSE
COM MECHA BLOCK
MO 251

COM DET P.C. BOARD RD-A514

GX-370D
SCHEMATIC DIAGRAM
NO.3-3 1441811A 2C